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# EXECUTIVE DOCUMENTS

PRINTED BY ORDER OF

# THE SENATE OF THE UNITED STATES,

DURING THE

FIRST SESSION OF THE THIRTY-SECOND CONGRESS,

1851-2.

IN SIXTEEN VOLUMES.

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VOLUME VIII.

Contains Nos. 39 to 55 inclusive.

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TO

# EXECUTIVE DOCUMENTS

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| Communicating a copy of an agreement entered into on behalf of the United States, with Alexander G. Abell, in relation to the island of Santa Cruz, on the coast of California..... | 9 | 87 | 1 |
| In answer to a call for information whether any steps were taken to investigate the charges preferred by Col. McClellan against Mr. Bartlett, a commissioner to run and mark the boundary between the United States and Mexico..... | 9 | 89 | 1 |
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# REPORT

OF

# THE SECRETARY OF THE TREASURY,

COMMUNICATING,

*In compliance with a resolution of the Senate, information in relation to the Louisville and Portland canal.*

FEBRUARY 17, 1852.

Read, referred to the Committee on Roads and Canals, and ordered to be printed.

TREASURY DEPARTMENT,
*February* 16, 1852.

SIR: I have the honor to report herewith, in compliance with a resolution of the Senate, of February 24, 1851—

1. Copies of the several *proxies* given to persons to represent the stock of the United States in the Louisville and Portland canal.

2. Copies of all *instructions* given to such proxies, in reference to said stock, with letters referring thereto.

3. Copy of a *list* (reported by the president of the Louisville and Portland Canal Company) *of the stockholders* in said canal, and the amounts of stock held by them respectively.

This list was made and transmitted to the department on the 4th of March, 1851, at which time 1,950 shares were held by individuals. Since that period, as appears by a statement of the president of the company, made on the 5th of February, 1852, (a copy of which is also transmitted,) 610 shares of stock have been retired; leaving in the hands of individuals, at that date, 1,340 shares.

I have the honor to be, very respectfully, your obedient servant,

THO. CORWIN,
*Secretary of the Treasury.*

Hon. WILLIAM R. KING,
*President pro tem. of the Senate.*

*Proxy.*

I, Roger B. Taney, Secretary of the Treasury of the United States of America, do hereby constitute and appoint John Hulme, of Louisville, Kentucky, my proxy, for me and in my stead, to represent the United States at the meetings of the stockholders of the Louisville and Portland Canal Com-

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pany hereafter to be held—this power to remain in force until revoked by this department.

Given under my hand and seal of office, in the city of Washington, this twenty-first day of November, one thousand eight hundred and thirty-three, and the fifty-eighth year of the independence of the United States.

ROGER B. TANEY,
*Secretary of the Treasury.*

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TREASURY DEPARTMENT, *November* 21, 1833.

SIR: Enclosed you will find your appointment as my proxy to represent the United States at the meetings of the Louisville and Portland Canal Company.

On the question as to Mr. Ronaldson's compensation, it is my wish that you should give no vote, as the government will be satisfied with any decision of the stockholders on the subject.

I remain, very respectfully, your obedient servant,

ROGER B. TANEY,
*Secretary of the Treasury.*

JOHN HULME, Esq., *Louisville, Ky.*

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I, Levi Woodbury, Secretary of the Treasury of the United States of America, do hereby constitute and appoint John Hulme, of Louisville, Kentucky, my proxy, for me and in my stead, to represent the United States at the meetings of the stockholders of the Louisville and Portland Canal Company hereafter to be held—this power to remain in force until revoked by this department.

Given under my hand and seal of office, in the city of Washington, this fourth day of November, one thousand eight hundred and thirty-four, and the fifty-ninth year of the independence of the United States.

LEVI WOODBURY,
*Secretary of the Treasury.*

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TREASURY DEPARTMENT, *July* 14, 1835.

SIR: Your circular dated the 3d instant has been received, and I will thank you to cause the amount of the dividend declared on the stock in the Louisville and Portland canal, owned by the government, to be placed in the Louisville Savings Institution, to the credit of the Treasurer of the United States.

I am, very respectfully, your obedient servant,

LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, ESQ., *F. L. & P. C. C.*

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LOUISVILLE SAVINGS INSTITUTION,
$11,608. *February* 5, 1836.

Mr. John Hulme, treasurer of the Louisville and Portland Canal Company, has this day deposited in the Louisville Savings Institution eleven thousand six hundred and eight dollars, to the credit of the Treasurer of the United States.

J. M. CAMPBELL, *Treasurer.*

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LOUISVILLE, KY., *January* 14, 1836.

DEAR SIR: A few days since was forwarded to you an annual report of the proceedings of the Louisville and Portland Canal Company, with a request that you would delay calling for the dividend due the United States until a petition was acted upon, which is now before Congress, praying that they would forego these dividends, provided the canal company would bind itself to reduce the toll in proportion.

As you have passed through this canal and know of its great *utility* to the commerce of the West, and the improvements necessary to be made on the canal, to facilitate the passage of boats, for which latter object the company are yearly appropriating considerable sums, thereby confining their dividends to a small per-centage, and debarring them, as a private company, from relieving the present tax on commerce by a reduction of toll; wherefore, I wish your kind attention to this petition, and that you would give it all the support which your influence with Congress and the Executive may deem judicious.

As agent under your appointment and that of your predecessor, representing the interests of the United States in all actions relative to this work, and for the collection and disposal of that portion of the United States revenue arising from this canal, and bearing the responsibility and attention necessarily attached to large moneyed transactions, I have to beg that you will allow me such remuneration for my services as you may deem just; hitherto I have received no compensation from the United States, nor do I receive any pay as treasurer of the canal company.

My account is as follows—

| | | | | | |
|---|---|---|---|---|---|
| Received and paid into the U. S. Treasury, | | | | January, 1834--- | $14,010 00 |
| Do. | do. | do. | do. | July, 1834------ | 8,706 00 |
| Do. | do. | do. | do. | January, 1835--- | 8,706 00 |
| Do. | do. | do. | do. | July, 1835------ | 11,608 00 |
| | | | | | 43,030 00 |
| And have on hand, subject to your order---------- | | | | | 11,608 00 |
| Total---------- | | | | | 54,638 00 |

By favoring me with an early answer to this communication, you will much oblige,

Very respectfully, your obedient servant,

JOHN HULME,
*Collector of tolls of the Louisville and Portland Canal.*

Hon. LEVI WOODBURY,
*Secretary of the Treasury.*

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TREASURY DEPARTMENT,
*January* 23, 1836.

SIR: Your communication, dated the 14th instant, has been received.

It will give me pleasure to delay making use of the amount of the last dividend declared to the Louisville and Portland canal, until Congress shall have an opportunity of acting on the memorial referred to. In the mean time, however, it will be necessary that it be deposited to the credit of the Treasurer of the United States, in the Louisville Savings Institution, and a certificate of that fact forwarded to this office.

In regard to the compensation to you for services rendered, I have to remark that there is no law authorizing it; but if you will make application to Congress, who alone has the power to grant it, by petition or otherwise, I shall be happy to furnish any committee to whom the application may be referred, all the information in my possession on the subject.

I am, very respectfully, your obedient servant,

LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Louisville and Portland Canal Company.*

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LOUISVILLE, KENTUCKY,
*February* 5, 1836.

SIR: Your favor of January 23d was duly received. Your remarks relative to my requests in a former communication are satisfactory.

According to your desire enclosed, you will find a certificate of deposite to the credit of the Treasurer of the United States in the Louisville Savings Institution, the sum of eleven thousand six hundred and eight dollars, which amount is the fifth or last semi-annual dividend for 1835, accruing on the United States stock in the Louisville and Portland canal.

Very respectfully, your obedient servant,

JOHN HULME,
*Treasurer of the Louisville and Portland Canal Co.*

Hon. LEVI WOODBURY,
*Secretary of the Treasury, Washington City.*

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TREASURY DEPARTMENT,
*December* 26, 1837.

SIR: Yours of the 18th has been received. Unless the deposite be made in such funds as the Savings Institution is willing to receive and credit, as cash, the Treasurer of the United States cannot acknowledge the payment. But as it is expected that the banks generally will soon resume specie payments, it is to be hoped that all difficulties on that score will soon be removed.

I am, &c.,

LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Louisville and Portland Canal Company.*

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TREASURY DEPARTMENT,
*September* 4, 1838.

SIR: Your communication, enclosing a certificate of deposite in the Louisville Savings Institution to the credit of the Treasurer of the United States for $37,726, for dividends on the ——— of the United States in the Louisville and Portland Canal Company, for the year 1837, has been received.

In addition to the sum deposited, there is due to the United States, for the year 1838, as appears by the *notice of the treasurer*, annexed to the circular received from the secretary of the company, dated the 2d of July last, the sum of $17,412, which I will thank you to deposite to the credit of the Treasurer in the Louisville Savings Institution.

The notice of the treasurer referred to, is as follows: "Your 2,902 shares entitle you to receive $17,412 of the above dividend, which will be paid to you or your order, on demand, in bank notes current in this city."

I am, &c.,
L. WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Treasurer of the Louisville and Portland Canal Company.*

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TREASURY DEPARTMENT,
*September* 28, 1838.

SIR: Your letter of the 12th instant was placed before me on my return yesterday, after a few days absence.

From previous notice and correspondence, this department expected that the $17,412 belonging the United States would be deposited, with other dividends due, as soon as specie payments were resumed. A letter was written to Mr. Camp, its collecting officer of the customs at Louisville, directing him to look to the whole matter, as the money was much needed for the public service; and the department did not know but the treasurer of the company might suppose it to be the duty of some officer of the United States to apply to him personally for the dividends on their stock, before paying them over, or depositing them to the credit of the Treasurer For these reasons, the letter to which you refer was addressed to Mr. Camp.

I am, &c.,
LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq,
*Treasurer, &c., Louisville, Ky.*

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TREASURY DEPARTMENT,
*January* 19, 1839.

SIR: A copy of the "fourteenth annual report of the president and directors of the Louisville and Portland Canal Company," has been this day received at the department.

I will thank you to cause the amount of dividend payable to the United

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States, viz: $14,510, as stated by you, to be placed in special deposite in the Louisville Savings Institution, to the credit of the Treasurer of the United States.

I am, &c.,

LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Treasurer Louisville and Portland Canal Company.*

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LOUISVILLE, *February* 15, 1839.

SIR: Your letter of January 19th is received, and enclosed you will find a duplicate receipt from the president of the Louisville Savings Institution, setting forth that I have this day deposited to the credit of the Treasurer of the United States, fourteen thousand five hundred and ten dollars, being January, 1839, dividend on government stock in the Louisville and Portland canal.

I have been absent from this city—called to Frankfort by the State legislature, as evidence—or should have answered your letter sooner.

With much respect, very respectfully, your obedient servant,

JOHN HULME.

Hon. LEVI WOODBURY,
*Secretary of the Treasury, Washington City.*

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OFFICE LOUISVILLE AND PORTLAND CANAL COMPANY,
*Louisville, Ky., July* 1, 1839.

SIR: The receipts of tolls on the canal for the past six months being $112,125 29, will warrant the payment of nine dollars per share on account of the dividend for the present year; and the board have this day directed a payment of that amount to be made to the stockholders, as they stand on the books of the company on this day.

By order of the board of president and directors:

SIMEON S. GOODWIN,
*Secretary.*

Your 2,902 shares entitle you to receive $26,118 of the above dividend, which will be paid to you or your order, on demand, in current funds of this city.

J. HULME,
*Treasurer.*

Hon. LEVI WOODBURY,
*Secretary of the Treasury, Washington City.*

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TREASURY DEPARTMENT,
*July* 8, 1839.

SIR: Your communication dated the 1st instant has been received, and I will thank you to place the amount of the dividend on the shares held by

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the United States in the Louisville and Portland canal, to the credit of the Treasurer of the United States, in special deposite in the Louisville Savings Institution, the president thereof being authorized to receive the same.

I am, &c.,
LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Louisville and Portland Canal Company.*

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TREASURY DEPARTMENT,
*January* 2, 1840.

SIR: I herewith enclose a copy of a resolution adopted by the Senate of the United States, calling for a statement of certain facts respecting the Louisville and Portland canal, and will be much obliged if you will communicate to me, at your earliest convenience, such information upon the points involved by this call as may be within your power.

I am, &c.,
LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Treasurer Louisville and Portland Canal Co.,*
*Louisville, Ky.*

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TREASURY DEPARTMENT,
*January* 20, 1840.

SIR: I have to acknowledge the receipt of your letter of the 11th instant, with its several enclosures, showing certain facts called for by resolution of the Senate, and beg you to accept my thanks for your prompt attention to my request.

I am, &c.,
LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Treasurer, &c., Louisville, Ky.*

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TREASURY DEPARTMENT,
*January* 22, 1840.

SIR: I have to acknowledge the receipt of the fifteenth annual report of the president and directors of the Louisville and Portland Canal Company, with your notice subjoined, that the dividend belonging to the United States, amounting to $23,216, will be paid in Philadelphia, in bank notes current there, less the exchange from Louisville.

If this amount can be deposited by you in specie, to the special credit of the Treasurer, in the Louisville Savings Institution, it can be carried into the treasury, and the payment recognised. I will thank you to apprize me, at

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your earliest convenience, whether this course can be taken; and if not, what mode you would prefer for effecting a lawful payment to the United States, of this dividend.

I am, sir, &c.,

LEVI WOODBURY,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*Treasurer, &c., Louisville, Ky.*

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LOUISVILLE, *January* 6, 1841.

DEAR SIR: In addition to the within, there is standing to the credit of the United States, in this office, dividend No. 13, declared January 6, 1840, of $23,216, and dividend No. 14, declared July 6, 1840, of $14,510; of which advice was given to you at the time, payable in current funds of this city. Please advise me of the disposition you may wish to have made of the same.

Very respectfully,

J. HULME.

Hon. LEVI WOODBURY,
*Secretary of the Treasury.*

N. B.—Please forward me any Congressional reports or proceedings of importance.

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LOUISVILLE, *February* 5, 1841.

DEAR SIR: Your communication of January 29th is received. I have consulted with Mr. Merriwether on the subject, and he will write to you his views.

All the three dividends are to the credit of the United States, on the books of the Louisville and Portland Canal Company—necessarily so, as I have received no orders from you to deposite any part thereof to your credit in the Louisville Savings Institution. Your order to Mr. Merriwether, in relation to the first of the three dividends, was informal, but can make no difference in the result, as Mr. Merriwether and myself fully understand the affair, and he will give me every assistance in his power.

In accordance with your orders, I have made arrangements to get the current bank paper of this city converted into specie, and will deposite it to the credit of the United States treasury, with the receiver at Jeffersonville, from time to time, as I am enabled to purchase the specie.

Owing to the fact of the banks generally, east of Kentucky, having resumed, and the banks here continuing a non-resumption, exchange has risen to four per cent. on Philadelphia, and specie proportionably increased in price. I have offered three per cent. for it, but fear it will come in slowly at this price. Rest assured, however, that every exertion will be made on my part to fulfil your order on the best terms.

Very respectfully, your obedient servant,

J. HULME.

To the Hon. LEVI WOODBURY,
*Secretary of the Treasury, Washington City.*

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TREASURY DEPARTMENT,
*June* 9, 1841.

SIR: I have to acknowledge the receipt of your letter of the 25th ultimo. Unless authorized by act of Congress, it is not in the power of this department to purchase stock for the United States in the Louisville and Portland Canal Company, and pay for it by the dividends now due. The present condition of the treasury requires the balances due to it to be realized with the least possible delay. The sum now held by you in currency, on account of the dividends due, I wish to be converted into the lawful medium, and deposited with the receiver at Jeffersonville, with as little delay as possible. If it will not be convenient for you to attend to it, I will thank you to apprize me, in order that directions may be given to some other person to receive the currency from you, for conversion, that the same may be made available as soon as practicable. I do not understand the former letter of this department, limiting the rate of difference to be paid on such conversion; and I wish it may be done at the current market rate, in such manner as may promote the public interest as much as possible.

I am, &c.,

T. EWING,
*Secretary of the Treasury.*

JOHN HULME, Esq., *Louisville.*

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TREASURY DEPARTMENT,
*November* 25, 1841.

SIR: In reply to your communication of the 19th instant, I have only to say, that the amount of specie in your hands on account of dividends arising from the stock held by the United States in the Louisville and Portland Canal Company, may be deposited to the credit of the Treasurer of the United States, in the Louisville Savings Institution.

I am, &c.,

W. FORWARD,
*Secretary of the Treasury.*

JOHN HULME, Esq.,
*President Louisville and Portland Canal Company.*

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LOUISVILLE SAVINGS INSTITUTION,
*April* 5, 1842.

$7,500.

John Hulme, esq., treasurer of the Louisville and Portland Canal Company, has deposited to the credit of the Treasurer of the United States seven thousand five hundred dollars in specie.

Signed duplicate certificate.

J. H. ROHRER, *Treasurer.*

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LOUISVILLE, *April 5*, 1842.

DEAR SIR: As per above certificate of deposite, you will perceive that I have this day placed to the credit of the United States seven thousand five hundred dollars, (in specie,) in the Louisville Savings Institution, the same being on account of the dividend due the United States from the Louisville and Portland Canal Company. Twenty-five hundred dollars of the above amount cost four per cent. premium; five thousand cost three per cent.; making two hundred and fifty dollars, which is charged to account of the United States.

On the 8th ultimo I forwarded to you an account of all the purchases of specie made, and enclosing a certificate of deposite for eleven thousand two hundred and thirty dollars and fifty-three cents. Please to inform me if it is your desire that I should continue purchasing with the balance of paper dividend due United States.

Very respectfully, your obedient servant,

J. HULME, *Treasurer*.

Hon. WALTER FORWARD,
*Secretary of the Treasury*.

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TREASURY DEPARTMENT,
*April* 11, 1842.

SIR: I enclose a copy of a letter received from G. W. Merriwether, esq., president of the Louisville Savings Institution, in which he proposes to place to the credit of the Treasurer of the United States, in New York and Baltimore, about twenty thousand dollars, and to receive in payment an order on the Louisville and Portland Canal Company for the amount, with the addition of five per cent. for exchange.

If, in your opinion, the exchange cannot be effected on more favorable terms, you are authorized to accept Mr. Merriwether's proposition; and when you shall receive the certificates of deposite, to pay to Mr. M. the amount, with five per cent., out of the money in your hands, on account of dividends on government stock in the Louisville and Portland Canal Company.

I am, &c.,

W. FORWARD,
*Secretary of the Treasury*.

J. HULME, Esq.,
*Treasurer Louisville and Portland Canal Company*.

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LOUISVILLE, *May* 11, 1842.

DEAR SIR: Enclosed you will find a certificate of deposite of ten thousand dollars in the Bank of America, New York, to the credit of the Treasurer of the United States, dated May 4, 1842.

This deposite is on account of the dividend due the United States, arising from her stock in the Louisville and Portland canal.

I paid for above certificate, to the Louisville Savings Institution, five per

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cent. premium, and consequently have you charged this day with ten thousand five hundred dollars ($10,500.)

Respectfully, your obedient servant,

JOHN HULME.

To Hon. WALTER FORWARD,
*Secretary of the Treasury, Washington City.*

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TREASURY DEPARTMENT,
*January* 2, 1845.

SIR: I transmit herewith a copy of a resolution of the House of Representatives, on the subject of the purchase of the stock of the Louisville and Portland canal.

I will thank you for any information in your possession, to enable me to reply to the resolution, and also for your views in relation to the subject.

I am, &c.,

GEORGE M. BIBB,
*Secretary of the Treasury.*

JAMES MARSHALL, Esq.,
*Treasurer Louisville and Portland Canal Co.*

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OFFICE LOUISVILLE AND PORTLAND CANAL CO.,
*January* 8, 1845.

SIR: In reply to your communication of the 2d instant, concerning a resolution of the House of Representatives, requesting you to communicate to the House your opinion as to the propriety of the purchase by the United States of the residue of the stock held by individual stockholders in the Louisville and Portland Canal Company, with a view to making the navigation of said canal free from toll; and also the terms, in your opinion, on which the purchase can be made, and the probable amount of money which will be required to effect the same; I have the honor to furnish you with the last annual report of the company, and also a report made by the War Department to the Senate, at their last session, with supplementary remarks by Mr. Hulme, superintendent of the canal, and a map of the falls, made from a most accurate survey.

| | | |
|---|---|---|
| The whole stock of the company is---------- | | 10,000 shares. |
| Of which the United States are original owners of | 2,902 shrs. | |
| In 1842 the net income was applied to the purchase of the stock of individual stockholders, and no dividends were made, and there were purchased---------- | 471 " | |
| In 1843 there were purchased, in like manner-- | 544 " | |
| In 1844, by the same process, there were purchased ---------- | 771 " | |
| The net income of 1845 is estimated to purchase | 812 " | |
| | | 5,500 |
| Thus, there will be standing in the name of individuals, at the close of the present year---------- | | 4,500 shares. |

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If a law should be passed by Congress, to purchase the shares of individual stockholders, it is fair to conclude that its object would not be completed before the end of the year, and that the income of the year would continue to be appropriated to the attainment of the same object. The board of president and directors have no means of controlling the shares belonging to seventy-three stockholders, residing in nine States; but from the best information they are enabled to obtain, it is their opinion that the shares can be purchased by the United States for $140 each, although they are worth $150; but in consideration of the object of making the canal free from toll, they will generally be induced to sell to the United States at the first named price; therefore, 4,500 shares, at $140, will amount to the sum of $630,000. If an act of Congress should be passed, of the following tenor, the object would doubtless be attained:

That the Secretary of the Treasury is hereby authorized to purchase the stock of the Louisville and Portland Canal Company, held by individual citizens or corporate companies, at a sum not exceeding $140 per share, and that the sum of six hundred and thirty thousand dollars is hereby appropriated, &c.

It requires no argument, with you, to show the importance to the trade of the twelve States and Territories which receive their supplies and send their produce to market through this channel, burdened with a tax, in the shape of tolls to this canal, amounting in the aggregate to more than $150,000 per annum. You are well aware that it is the general desire and expectation of all persons who have any interest, direct or indirect, in the navigation of the western rivers, that this canal shall become the property of the United States, and that the trade of the country must be relieved of this onerous and burdensome tax—a tax which is peculiar to the West, and partial in its operation. The United States have expended on breakwaters, harbors, and light-houses, large sums of money, in various sections of the Union, yet no toll or tax is demanded from those who derive direct benefit from them; while no one of those works is of more importance, or national in its character, than this canal, through which upwards of 300,000 tons of shipping annually pass; and yet the commerce of the West pays an annual tax indirectly into the national treasury, by exaction of tolls on this important link of communication, in the centre of the cultivated part of the Union. Your personal knowledge of all that pertains to this subject, renders any extended remarks unnecessary. Knowing that you will return such a reply as the resolution requires, I submit the same in safe hands.

Most respectfully, your obedient servant,

JAMES MARSHALL, *President.*
SIMEON S. GOODWIN, *Sec'y.*

Hon. GEORGE M. BIBB,
*Secretary of the Treasury.*

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OFFICE LOUISVILLE AND PORTLAND CANAL COMPANY,
*Louisville, February* 22, 1850.

SIR: I have received your communication of the 17th instant, and, agreeably to your request, I enclose herewith the two last annual reports of this company, which will be found to exhibit a general statement of its affairs, and by which it will be seen that only 1,950 shares of stock, other

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than those (2,902) belonging to the United States, remain to be extinguished. In answer to your request for my opinion as to the time when the resources of the company will probably enable it to extinguish these remaining shares, I submit the following calculation;—premising, first, that at the time (July, 1842) when the stockholders adopted the arrangement for the ultimate liquidation of the stock, the shares were worth $150 in the market, and this was fixed as the basis price at which the company should commence the purchase of the stock, interest on the same, at the rate of 6 per cent. per annum, ($9 on each share) to be added on the stock purchased from year to year by the company. Thus, in the first year of the arrangement, the stock redeemed was taken at $150 per share; the second year, at $159; the third, at $166, &c. The average annual receipts for the last ten years, is $130,000; the average annual expenses for the same time, $23,000; the net annual income, $107,000.

| Years ending— | Net annual income. | Price per share. | Shares to be purchased. |
|---|---|---|---|
| December 31, 1851 | $107,000 | $231 | 463 |
| Do 1852 | 107,000 | 240 | 446 |
| Do 1853 | 107,000 | 249 | 430 |
| Do 1854 | 107,009 | 258 | 414 |
| June 30, 1855 | 107,000 | 267 | 197 |
| | | | 1,950 |

By this calculation it will be seen that all the private stock will probably be extinguished by the 30th June, 1855—four and a half years from the beginning of the present year.

Since the first day of January, 1851, the receipts for tolls are, $29,373 30; the expenses, $2,976 68; leaving a balance of $26,396 62 in the treasury, which is the amount of cash on hand. This is an unusually favorable beginning for this year, and we expect the receipts of the year to be unusually large.

Very respectfully, your obedient servant,

J. H. ROHRER, *Secretary.*

To Hon. W. L. HODGE,
*Secretary of the Treasury.*

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*Proxy.*

I, Thomas Corwin, Secretary of the Treasury of the United States of America, do hereby constitute and appoint James Marshall, of Louisville, Kentucky, my proxy, for me and in my stead, to represent the United States at the meetings of the stockholders of the Louisville and Portland Canal Company hereafter to be held. This power to remain in force until revoked by this department.

Given under my hand and seal of office in the city of Washington, this 11th day of September, one thousand eight hundred and fifty, and the [L. S.] seventy-fifth year of the independence of the United States.

THOS. CORWIN,
*Secretary of the Treasury.*

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TREASURY DEPARTMENT,
*September* 11, 1850.

SIR: I transmit herewith the necessary authority for you to act as my proxy to represent the United States at the meetings of the Louisville and Portland Canal Company. I trust it may be your pleasure to accept of this trust, of which I will thank you to notify the department.

I am, respectfully, &c.,
THO. CORWIN,
*Secretary of the Treasury*

To JAMES MARSHALL, Esq.,
*Louisville.*

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TREASURY DEPARTMENT,
*September* 11, 1850.

SIR: I have this day constituted and appointed James Marshall, of Louisville, my proxy to represent the United States at the meetings of stockholders of the Louisville and Portland Canal Company; and, therefore, the proxy heretofore held by you is consequently revoked.

I am, respectfully, your obedient servant,
THO. CORWIN,
*Secretary of the Treasury.*

JOHN HULME, Esq., *Louisville.*

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LOUISVILLE, *September* 20, 1850.

DEAR SIR: I have received your letter of the 11th instant, appointing me your proxy to represent the interests of the United States in the Louisville and Portland Canal Company.

I accept of this trust, and hope to be able to guard the large interest of the government in this improvement.

Any suggestions or instructions from you will receive prompt attention.

Very respectfully, your obedient servant,
JAMES MARSHALL.

Hon. THOMAS CORWIN,
*Secretary of the Treasury, Washington.*

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OFFICE LOUISVILLE AND PORTLAND CANAL,
*February* 18, 1851.

DEAR SIR: In compliance with your despatch of yesterday, I herewith forward to you by mail the two last annual statements of the Louisville and Portland Canal Company.

The present number of shares outstanding, (1,950) nineteen hundred and fifty.

Very respectfully, your obedient servant,
JAMES MARSHALL, *President.*

W. L. HODGE, Esq.,
*Assistant Secretary of the Treasury, Washington City.*

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| | |
|---|---|
| The United States own | 2,902 shares. |
| Paid individuals, since January, 1843, for stock retired | 5,148 " |
| Individuals now own | 1,950 " |
| | 10,000 shares. |

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TREASURY DEPARTMENT,
*February* 25, 1851.

SIR: I have the honor to acknowledge receipt of your letter of 18th instant, with the two last annual statements of the Louisville and Portland Canal Company, and return you my thanks for your prompt attention in forwarding them.

A further call from the Senate, received to-day, requests the department to procure and communicate to the Senate a list of the "stockholders in said canal, and the amounts of stock held by them respectively." Will you be pleased to forward to the department such a list, in order to enable it to comply with the request of the Senate?

Very respectfully, your obedient servant,

WM. L. HODGE,
*Assistant Secretary of the Treasury.*

JAMES MARSHALL, Esq.,
*President of the Louisville and Portland Canal Co.,*
*Louisville, Ky.*

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CANAL OFFICE,
*Louisville, March* 4, 1851.

DEAR SIR: I have received yours of the 25th ultimo, and now forward to you a list of the stockholders in the Louisville and Portland canal, with the amount of stock held by them respectively.

Very respectfully, your obedient servant,

JAMES MARSHALL.

WM. L. HODGE, Esq.,
*Assistant Secretary of the Treasury.*

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*List of stockholders in the Louisville and Portland Canal Company, January*, 1851.

| Names. | Residence. | Shares. |
|---|---|---|
| H. L. B. Goodwin | Louisville | 4 |
| Portland dry dock | ....do | 10 |
| C. W. Short | ....do | 25 |
| J. H. Rohrer | ....do | 1 |
| John Hulme | ....do | 7 |
| James Marshall | ....do | 9 |
| J. C. Short | Ohio | 20 |
| H. G. Phillips | ....do | 22 |
| J. N. Schenck | ....do | 18 |
| S. F. Vinton | ....do | 4 |
| James Buthond | New Orleans | 4 |
| William Fitch | Illinois | 5 |
| Ame Riddle's executors | St. Louis | 14 |
| James Clemmons, jr | ....do | 28 |
| Richard Graham | ....do | 26 |
| Catharine Graham | ....do | 20 |
| Charles Chambers | ....do | 28 |
| Dennis Delany's executors | ....do | 28 |
| William S. Harney | ....do | 28 |
| B. Mullamphy | ....do | 9 |
| Ogden, Ferguson & Co | New York | 119 |
| Lewis Curtis, trustee | ....do | 28 |
| G. W. Thatcher | ....do | 13 |
| W. M. Shackford | Portsmouth, N. H. | 7 |
| James Kennard | ....do | 7 |
| A. J. Ranney's trustees | ....do | 28 |
| Ann D. Shackford's do | ....do | 28 |
| Charlotte L. Shackford's trustees | ....do | 28 |
| C. W. Shackford's .....do | ....do | 28 |
| G. R. Shackford's .....do | ....do | 28 |
| Jane S. Shackford's.....do | ....do | 42 |
| A. W. Haven | ....do | 3 |
| J. W. Haven | ....do | 3 |
| G. W. Haven | ....do | 3 |
| J. A. Haven | ....do | 3 |
| S. Ingles | Philadelphia | 1 |
| Caleb Fellows | ....do | 14 |
| N. Dunn's executors | ....do | 7 |
| Thomas McEwen | ....do | 56 |
| Elisha Chauncey's executors | ....do | 53 |
| John Cox | ....do | 18 |
| Kitty Markoe | ....do | 5 |
| Charles McCallister | ....do | 8 |
| W. Short | ....do | 43 |
| R. Ronaldson | ....do | 169 |
| P. Lissley | ....do | 23 |
| Joseph Lissley | ....do | 11 |
| James Lissley | ....do | 3 |
| John Hewitt | ....do | 36 |
| W. Kirkham | ....do | 5 |
| H. Seybert | ....do | 20 |
| P. Hulme | ....do | 28 |
| M. A. Carville | ....do | 3 |
| T. P. Hoops | ....do | 57 |
| John L. Neill | ....do | 1 |
| J. C. Fisher's heirs | ....do | 44 |
| C. W. Haywood | ....do | 180 |
| W. M. Ingles | ....do | 26 |
| J. P. Hutchinson | ....do | 19 |

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*List of stockholders*—Continued.

| Names. | Residence. | Shares. |
|---|---|---|
| Thomas Sergeant | Philadelphia | 16 |
| Mary Hirsler | do | 3 |
| Thomas A. Biddle | do | 1 |
| H. J. Biddle | do | |
| W. Drayton | do | 20 |
| Hudson Carman | do | 14 |
| J. L. Sharpe | do | 14 |
| P. Hulme and W. Duane, trustees | do | 57 |
| Thomas Hulme | do | 201 |
| H. J. Williams, trustee | do | 23 |
| H. W. Mercer | do | 13 |
| W. J. Duane, trustee | do | 29 |
| W. J. Duane | do | 5 |
| Richard Smitherst | do | 36 |
| United States | | 2,502 |
| Retired stock | | 6,148 |
| Total shares | | 10,000 |

TREASURY DEPARTMENT,
*March* 12, 1851.

SIR: I have the honor to acknowledge your letter of 4th inst., with a list of stockholders in the Louisville and Portland canal, and thank you for your prompt attention to my request.

Very respectfully, your obedient servant,

WM. L. HODGE,
*Acting Secretary of the Treasury.*

J. MARSHALL, Esq., *Louisville, Ky.*

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LOUISVILLE AND PORTLAND CANAL COMPANY,
*February* 5, 1852.

DEAR SIR: In compliance with your letter of the 27th of last month, I send you four copies of the annual report of the president and directors of the Louisville and Portland Canal Company, for the year 1851.

The receipts of this year amount to about $10,000 more than any previous year since the operation of the amended charter in 1842. Some detention and extra expense was incurred last year in drawing off the water and cleaning out the mud, &c.

A majority of the directors now reside in Louisville, where they can see all the operations of the company, which has never heretofore been the case, and must be more satisfactory to the government.

The 1,340 shares of stock now held by private stockholders, I think can be liquidated in about two and a half years.

Very respectfully, yours,

JAMES MARSHALL,
*President Louisville and Portland Canal Company.*

Hon. THOMAS CORWIN,
*Secretary of the Treasury.*



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OFFICE LOUISVILLE AND PORTLAND CANAL COMPANY,
*February* 7, 1852.

DEAR SIR: Excuse my troubling you to explain an omission or error in my letter of the 5th instant, in which I say a majority of the directors now live in Louisville, where they can see all the operations, &c.

I should have said a *large* majority, &c. Heretofore, two distant stockholders, generally in Philadelphia, have been elected directors, and three in Louisville. In case of absence of any director here, which frequently occurred, a board could not be had to transact the business of the company.

This year, four directors reside in Louisville and one in Philadelphia, which will enable the board to meet weekly or oftener, for the examination of reports of tolls, expenses, &c.

Very respectfully, yours,
JAMES MARSHALL, *President.*

Hon. THOMAS CORWIN,
*Secretary of the Treasury, Washington City.*

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# REPORT

OF

# THE POSTMASTER GENERAL,

WITH

*A statement of the receipts and expenditures of that department for the quarter ending 30th September, 1852.*

February 18, 1852.
Referred to the Committee on Finance, and ordered to be printed.

Post Office Department,
*February* 17, 1852.

Sir: No estimate of the revenues of the Post Office Department for the current fiscal year was presented in my last annual report, for the reason, as then stated, that the accounts of postmasters for the first quarter under the operation of the reduced rates of postage, established by the act of March 3d, 1851, had not been adjusted by the Auditor of the Treasury for the Post Office Department.

I have now the honor to transmit herewith, for the information of the Senate, a copy of a report made yesterday by the Auditor, showing that the amount received for postages collected, and postage stamps sold, during the quarter ending on the 30th September last, was $1,314,286 27.

This amount was, doubtless, considerably increased by the circumstance that all the unpaid letters remaining on hand at the several post offices at the close of the preceding quarter, or which had been posted during that quarter but had not reached the offices of their destination when it expired, remained charged with the higher rates of postage. Nearly all the unpaid letters mailed to or from California and Oregon, during the last half of the preceding quarter, were so circumstanced, and, consequently, were not affected by the act of 3d March, 1851, though upon such letters posted *after* it went into operation, it reduced the rate of postage 75 per cent.

Other causes have contributed, in a less degree, to increase the receipts for the first quarter of the present fiscal year, which, therefore, cannot be taken as very reliable data on which to base estimates for the current year.

| | |
|---|---|
| It is believed, however, that the receipts from postages, and the sale of postage stamps, for the current fiscal year, may be safely estimated at - - - - - | $5,300,000 |
| And the revenues of the department from all other sources, including the annual appropriation from the treasury, in compensation for the transportation of free matter for Congress and the departments, at - - - - - | 707,500 |
| **Making** - - - - - - | 6,007,500 |

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The receipts for postages, and postage stamps, for the quarter ending 30th September, 1851, when compared with the like receipts for the quarter next preceding, show a decrease of $356,088 68; and when compared with the like receipts for the corresponding quarter of the preceding year, a decrease of $149,206 38.

It is believed that these receipts for the current fiscal year will be about $2,000,000 less than they would have been if no change had been made in the rates of postage. It is, nevertheless, supposed that the surplus revenues to the credit of the department on the first of July last, (amounting, according to the report of the Auditor annexed to my last annual report, to $1,820,504 37,) the permanent appropriations of $700,000 per year from the treasury, and the contingent appropriation of $500,000 made by the 9th section of the act of March 3d, 1851, will be nearly sufficient to meet the expenditures of the department for the two years ending 30th June, 1853; and, therefore, no further appropriation from the treasury is now asked. If a further appropriation shall become necessary, it can be made at the next session of Congress.

I am, sir, very respectfully, your obedient servant,

N. K. HALL,
*Postmaster General.*

To the Hon. WM. R. KING,
*President of the Senate.*

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AUDITOR'S OFFICE, POST OFFICE DEPARTMENT,
*February* 16, 1852.

SIR: I have the honor to submit herewith a statement of the receipts and expenditures of the department as per quarter ended 30th September, 1852, as the same appears from the quarterly returns of postmasters, as registered in this office.

A full exhibit of the revenue and expenditure of the department will be ready in a few days.

I have the honor to be, very truly, &c.,

J. W. FARRELLY,
*Auditor.*

Hon. N. K. HALL,
*Postmaster General.*

*Report of the revenue and expenditures of the Post Office Department for the quarter ending 30th September, 1851, to wit:*

| | | |
|---|---|---|
| Revenue received from letter postages - - - | | $808,784 11 |
| from newspaper postages - - | | 188,965 88 |
| from stamps - - - - | | 316,536 28 |
| from emolument account - - | | 9,281 76 |
| from fines collected by postmasters - | | 17 50 |
| balances due to postmasters - - | | 1,716 79 |
| | | 1,825,302 32 |

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| | | |
|---|---|---|
| Expenditures for compensation to postmasters - | - | $337,617 06 |
| for ship, steamboat, and way letters | - | 6,593 07 |
| for incidental expenses of offices - | - | 152,100 14 |
| official letters - - - | - | 217 04 |
| | | 496,527 31 |
| Balance due the department - | - | 828,775 01 |
| | | 1,325,302 32 |

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32d CONGRESS, 1st Session. [SENATE.] Ex. Doc. No. 41.

# REPORT

OF

# THE SECRETARY OF THE TREASURY,

SHOWING

*The contracts made by that department during the year* 1851.

FEBRUARY 18, 1852.
Referred to the Committee on Finance, and ordered to be printed.

TREASURY DEPARTMENT,
*February* 18, 1852.

SIR: I have the honor to transmit herewith the report of the First Comptroller, showing the contracts made by this department during the year 1851.

Very respectfully, your obedient servant,
THO. CORWIN,
*Secretary of the Treasury.*

Hon. W. R. KING,
*President pro tem. United States Senate.*

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*Statement of contracts authorized by the Treasury Department for the year 1851, transmitted to the First Comptroller's office.*

| | | | |
|---|---|---|---|
| *For binding, printing, and stationery.* | | | |
| W. A. Wheeler & Co. | July 18, 1850 | Specification | To furnish stationery to the Treasury Department and its offices to June 30, 1851. |
| G. S. Gideon & A. T. Burnley | do | do | To furnish stationery and execute the printing for the Treasury Department and its offices to June 30, 1851. |
| *For custom-houses.* | | | |
| O. T. Rogers & Co. | Jan. 6, 1851 | Specification | For granite for stair-cases coping, &c., for custom-house at Savannah. |
| J. B. & W. W. Cornell & Co. | Jan. 9, 1851 | do | For iron railing for custom-house at Savannah. |
| Morgan, Walker, & Smith | do | do | For window glass do do. |
| Fisher & Bird | Jan. 11, 1851 | do | For tile do do. |
| Charles Watrous | March 1, 1851 | $12,000 per annum | Lease of a fire-proof building for custom-house at Benicia. |
| Bradley & Campbell | April 1, 1851 | 300 | Lease of a warehouse in Burlington for one year. |
| A. B. Meslier | May 1, 1851 | 2,000 per annum | Lease of a building, to be used as a custom-house, at Mobile. |
| Jesse Godley | June 4, 1851 | 10,000 do | Lease of the granite street stores in Philadelphia for two years. |
| John L. Kimberly | July 1, 1851 | 400 do | Lease of rooms for three years in the city of Buffalo. |
| James Eldridge | July 28, 1851 | 1,500 per month | Agreement to build four warehouses in San Francisco. |
| Daniel Saffarrans | Nov. 11, 1851 | 1,500 do | Lease of fire-proof warehouse, for ten years, in San Francisco. |
| G. Boyd | Nov. 13, 1851 | Specification | For furniture for the custom-house at Savannah. |
| J. B. & W. W. Cornell & Co. | do | do | For 800 feet of iron railing for the custom-house at Savannah. |
| Conover & Woolley | do | $263 | For 21 grates do do. |
| Fisher & Bird | do | Specification | For 14 marble shelves and 4 marble chimney-pieces for custom-house at Savannah. |
| J. Clarke | do | $30 per 1,000 feet | For 5,000 feet of white pine boards for custom-house at Savannah. |
| G. Bussell | do | $50 do | For 8,000 feet of black walnut boards do do. |
| Abel Price | do | $325 | For 70 blinds for custom-house at Savannah. |
| Theo. Adams & James Smiley | Dec. 22, 1851 | $400,000 | To furnish the materials, to perform the labor, and erect a custom-house at San Francisco. |
| *For building of, and for rations medicines, &c., for, marine hospitals.* | | | |
| Joseph Tucker | Jan. 1, 1851 | Specifications | For medicines for hospital at Mobile. |
| F. Evans & Co. | do | do | For rations for hospital at McDonoughville. |
| H. N. Gould | do | do | For rations for hospital at Mobile. |
| M. Pawley, H. B. Hawkins, & F. Fairbridge | April 24, 1851 | $5,125 | For cast-iron work for hospital near St. Louis. |

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| | | | |
|---|---|---|---|
| Andrew Leech & Co. | May 1, 1851 | 4½ cents per bushel | To deliver coal for hospital at Pittsburg. |
| C. W. Ricketson | do | Specification | For rations do do. |
| Michael Tobin | do | 4 and 5½ cents per quart | For milk do do. |
| Wilmarth & Noble | do | Specifications | For groceries do do. |
| Charles Kent | do | 6½ cents per pound | For beef and other fresh meat for hospital at Pittsburg. |
| Harman Fieldwish | June 16, 1851 | $4 25 per thousand | For 500,000 red and hard-burnt bricks for hospital at St. Louis. |
| Jotham Biglow | July 15, 1851 | $4,180 | For carpenters' work, lumber, nails, and iron work for hospital at St. Louis. |
| Henry Mirotto | Aug. 1, 1851 | $19 per thousand | For 50,000 bright cherry-red pressed bricks do do. |
| John & James Ross | Dec. 1, 1851 | Specification | For provisions and groceries for hospital at Cleveland. |
| William H. Wall | do | do | Do do do at Key West. |
| *Contracts under the act of Congress of Sept. 30, 1850, for the extension of the Capitol.* | | | |
| James S. Piper | Aug. 1, 1851 | $2 25 per perch | To deliver 15,000 perches of building stone, of 25 cubic feet per perch |
| Samuel J. Seely | Aug. 2, 1851 | $1 30 per barrel | To deliver 3,000 barrels of lime, of 260 pounds net. |
| Aloysius N. Clements | Aug. 12, 1851 | 2½ cents per bushel | To deliver 50,000 bushels of clean sharp river sand. |
| George Shafer | Aug. 22, 1851 | $1 17 per barrel | To deliver 1,000 barrels of the best hydraulic cement, of 300 pounds net. |
| *For rations and ship chandlery for revenue cutters.* | | | |
| D. J. Odell | Jan. 1, 1851 | Specification | For ship chandlery for cutter Alert. |
| Fitzgerald, Davis, & Thomas | do | do | Do do Campbell. |
| F. Evans & Co. | do | 18 cents per ration | For rations for cutter at New Orleans. |
| Fitzgerald, Davis, & Thomas | do | 18½ do | Do Campbell. |
| H. N. Gould | do | 15½ do | Do at Mobile. |
| William H. Wall | do | 18½ do | Do at Key West. |
| Samuel Peabody | Dec. 27, 1851 | 14 2-10 do | Do Alert. |
| Abraham Leggett | Dec. 30, 1851 | 20 do | Do at New York station. |
| Charles A. Secor & Co. | do | Specification | For ship chandlery for cutter at New York station. |
| *To improve the approaches to the court-house at Detroit.* | | | |
| William Burnell | Mar. 31, 1851 | $535 | To improve the approaches to the court-house at Detroit. |

TREASURY DEPARTMENT, *First Comptroller's Office, February* 18, 1852.

ELISHA WHITTLESEY, *Comptroller.*



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*Statement exhibiting the contract prices for furnishing the stationery for the Treasury Department and the several offices thereof for the fiscal year ending June 30, 1851.— William A. Wheeler & Co., contractors.*

| Articles. | Price. |
|---|---|
| CLASS No. 1.—*Writing paper, made of linen, laid or wove, white or blue.* | |
| Folio post, satin or plain finish, faint lined and trimmed, to weigh not less than 17 pounds per ream* | $1 00 |
| Foolscap, hand-made, faint lined and trimmed, to weigh not less than 12 pounds per ream | 1 50 |
| Foolscap, machine, faint lined and trimmed, to weigh not less than 12 pounds per ream | 1 50 |
| Foolscap, plain, hand-made, faint lined and trimmed, to weigh not less than 12 pounds per ream* | 4 50 |
| Foolscap, plain, machine, faint lined and trimmed, to weigh not less than 12 pounds per ream* | 4 00 |
| Foolscap, blue laid, hand-made, faint lined, garden pattern, commonly known as despatch or consular paper, to weigh not less than 16 pounds per ream | 6 00 |
| Quarto post, hand-made, plain, faint lined three sides - per ream | 3 50 |
| Quarto post, machine, plain, faint lined three sides - do | 1 50 |
| Quarto post, hand-made, plain, faint lined four sides - do | 10 |
| Quarto post, machine, faint lined four sides - do | 25 |
| Quarto post, French, faint lined three sides - do | 25 |
| Note paper, gilt - do | 2 00 |
| Note paper, plain - do | 25 |
| CLASS No. 2. | |
| Royal paper, for books - per ream | 1 00 |
| Medium paper, for books - do | 1 00 |
| Copying paper, for books - do | 60 |
| Envelope paper, yellow or buff, royal - do | 2 00 |
| Envelope paper, flat, cap, white or blue - do | 50 |
| Large brown envelope - do | 4 50 |
| Blotting paper, royal - do | 25 |
| CLASS No. 3. | |
| Perry's best metallic pens - per dozen cards | 50 |
| All other manufacture in use - do | 1 30 |
| Metallic pens, best quality - per gross | 2 00 |
| Quills, No. 80 - per thousand | 2 00 |
| Quills, No. 70 - do | 1 00 |
| Ever-pointed gold pencils and pens - per dozen | 40 00 |
| Ever-pointed silver pencils, with gold pens - do | 6 00 |
| Gold pens, Brown's or equal - do | 22 50 |
| Silver cases for the same - do | 4 50 |
| Ever-pointed pencils, silver - do | 1 00 |
| Ever-pointed silver desk pencils, with rose-wood handles - do | 1 50 |
| Leads for ever-pointed pencils, assorted sizes - per gross | 10 |
| Contee's best black lead pencils, graduated - per dozen | 60 |
| Monroe's or other manufacture, graduated - do | 10 |
| Red lead pencils - do | 10 |
| CLASS No. 4. | |
| Folders, ivory, 9-inch - per dozen | 1 00 |
| Red linen tape, assorted - do | 30 |
| Silk taste, assorted colors and widths, in hanks - do | 50 |

* These three items are intended for foolscap, faint lined on four sides, and so explained to Messrs. Wheeler & Co.

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## STATEMENT—Continued.

| Articles. | | Price. |
|---|---|---|
| Pounce boxes, of ivory | per dozen | $1 00 |
| Pounce boxes, of cocoa | do | 10 |
| Sand boxes, of cocoa | do | 2 00 |
| Sand boxes, of tin | do | 10 |
| Wafer stands or boxes, cocoa | do | 1 50 |
| Erasers, Rodgers & Sons', ivory handles, genuine | do | 2 50 |
| Penknives, Rodgers & Sons', 4 blades, buckhorn handles, genuine | do | 12 00 |
| Penknives, Abbott's, American, do do do | do | 1 00 |
| Desk-knives, Rodgers & Sons', 1 blade, ivory handles, genuine | do | 75 |
| Wafer stamps, ivory handles | do | 2 00 |
| Wafer stamps, lignumvitæ handles | do | 50 |
| Office shears, 11 inches | do | 1 00 |
| Office scissors | do | 1 00 |
| **Class No. 5.** | | |
| Inkstands, cut glass, recently invented fountain, movable tops | per dozen | 25 |
| Inkstands, cast-iron | do | 1 50 |
| French pump China inkstands | do | 15 00 |
| Ink, black, Maynard & Noyes's | per gallon | 1 |
| Ink, black, Maynard & Noyes's, in bottles | per quart | 5 |
| Ink, red | do | 1 |
| Ink, black, Cooper & Phillips's or equal | per quart bottle | 40 |
| Ink, blue, Stephens's | do | 10 |
| Ink, red, Arnold's or equal, in ¼ pint bottles | per bottle | 4 |
| Common red ink, small size, French or equal | do | 20 |
| Ink, copying, Terry's, in ¼-pint bottles | do | 2 |
| **Class No. 6.** | | |
| Wafers, large, red, for department seal | per thousand | 25 |
| Wafers, common size, red | per pound | 50 |
| Sealing-wax, best extra superfine | do | 75 |
| Sealing-wax, black | do | 10 |
| India rubber, prepared | do | 25 |
| India rubber, unprepared | do | 1 50 |
| Black sand | per quart | 1 |
| Sealing-wax, superfine | per pound | 10 |
| **Class No. 7.** | | |
| Pounce | per ounce | 1 |
| India ink, best | per dozen | 6 |
| Camels' hair pencils, assorted | do | 1 |
| Twine, linen | per pound | 25 |
| Twine, cotton | do | 6 |
| Pocket envelopes, of white or yellow paper, of the following sizes, viz: 8¼ by 3⅝ inches | per hundred | 25 |
| Rulers, mahogany, round or flat | per dozen | 1 00 |
| Elastic penholders, Alden's | do | 5 |

TREASURY DEPARTMENT,
*First Comptroller's Office, February* 18, 1852.

ELISHA WHITTLESEY, *Comptroller.*

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*Statement exhibiting the contract prices for furnishing the stationery and executing the printing required for the Treasury Department, and the several offices thereof, for the fiscal year ending 30th June, 1851.—George S. Gideon and Albert T. Burnley, contractors.*

| Description of printing. | | Price. | Amount. |
|---|---|---|---|
| On quarto post, 1 page on a sheet | per 100 sheets | $0 50 | $375 00 |
| On quarto post, 2 pages on a sheet | do | 25 | 76 25 |
| On quarto post, 3 pages on a sheet | do | 25 | 12 50 |
| On quarto post, 4 pages on a sheet | do | 20 | 6 00 |
| On foolscap, 1 page on a sheet | do | 50 | 42 50 |
| On foolscap, 2 pages on a sheet | do | 25 | 150 00 |
| On foolscap, 3 pages on a sheet | do | 20 | 4 40 |
| On foolscap, 4 pages on a sheet | do | 20 | 3 60 |
| On folio post, 1 page on a sheet | do | 50 | 43 00 |
| On folio post, 2 pages on a sheet | do | 20 | 14 40 |
| On folio post, 3 pages on a sheet | do | 20 | 4 00 |
| On folio post, 4 pages on a sheet | do | 20 | 4 00 |
| On every other description of paper, not designated above, but to be so by the office ordering it, whether circulars, instructions, warrants, forms, returns, &c., as specified in the first paragraph— | | | |
| 1 page on a sheet | per 100 sheets | 10 | 2 70 |
| 2 pages on a sheet | do | 5 | 10 00 |
| 3 pages on a sheet | do | 5 | 1 05 |
| 4 pages on a sheet | do | 5 | 62 |
| For every additional page on any of the above over four pages, estimating at 10,000 pages, per 1,000 pages | | 1 mill. | 1 |
| Blank forms, or any other description of printing required broadside on any of the above paper, each broadside to be counted as one page. | | | |
| Treasurer's weekly statement of treasury drafts and specie, on imperial writing paper, per 100 sheets | | 3 00 | 3 00 |
| | | | 753 00 |

TREASURY DEPARTMENT,
*First Comptroller's Office, February* 18, 1852.
ELISHA WHITTLESEY, *First Comptroller.*

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32d Congress, 1st Session. [SENATE.] Ex. Doc. No. 42.

# REPORT

OF THE

# SECRETARY OF THE TREASURY,

ON

*The statistics and history of the Steam Marine of the United States made in compliance with a resolution of the Senate.*

JANUARY 21, 1852.

Read, referred to the Committee on Commerce, and ordered to be printed.

TREASURY DEPARTMENT,
*January* 20, 1852.

SIR: I have the honor to transmit, herewith, a report on the steam-marine of the United States, made in compliance with resolutions of the Senate, passed March 12, 1851.

I have the honor to be, very respectfully, your obedient servant,

THO. CORWIN,
*Secretary of the Treasury.*

HON. WILLIAM R. KING,
*President pro tem. of the Senate.*

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# REPORT

ON THE

# STEAM MARINE OF THE UNITED STATES.

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TREASURY DEPARTMENT,
*January* 19, 1852.

SIR: I have the honor to submit the following detailed and general report, in compliance with resolutions of the Senate passed March 12, 1851, instructing me to report, at the commencement of the present session of Congress, "the number of steamers in each collection district of the United States; their tonnage; the number of persons employed on board the same; the number of passengers carried on board the same annually; the average distance each passenger is carried; arranging ocean steamers in one class, propellers in another, ferry-boats in another, and ordinary steamers in another: stating the number propelled by high-pressure, and the number by low-pressure engines;" and also, "the number of shipwrecks of vessels of the United States, and the causes of such disasters, and the number of persons who thereby perished, during the past year."

The information here called for not existing in the department, and being attainable only through personal application and research, I appointed two agents to collect it, instructing one to visit the several collection districts on the lakes and rivers of the interior, and the other those of the Atlantic seaboard and the coast of the Gulf of Mexico. From each of these agents very full and accurate returns have been received, which are embraced, in general and in detail, in this report.

For the convenience of reference and comparison, as well as from historical and geographical propriety, the facts relating to the steam marine of the interior, and those relative to that of the seaboard and Gulf coast, are presented separately in the body of the report. At its close, the main points concerning the two divisions are given in combination.

## STEAM-MARINE OF THE ATLANTIC SEABOARD AND THE MEXICAN GULF.

The statistics of the steam-marine and shipwrecks, for the Atlantic, Gulf of Mexico, and Pacific coast, called for by the Senate, will be found, both in detail and aggregate, in the series of tables attached to this report. In addition to the particulars called for, an estimate has been made of the aggregate number of *miles traversed by steamers;* of the different *classes of vessels lost;* of the amount of marine insurance paid, and of the specific ratios between the *risks* and the *losses*, and between the *value of the property* and the amount paid for its loss. Each of these topics will be specially referred to.

The tables attached to the first division of this report are as follows, viz:

1. Table A (from 1 to 12 inclusive) is a tabular view of the statistics o

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the steam-marine of the United States on the seaboard, exhibited in detail by collection districts.

2. Table A 2 is a sectional view of the steam-marine of the United States on the Atlantic coast, from Passamaquoddy bay to Cape Sable, in Florida.

3. Table B 2 is a sectional view of the steam-marine of the United States on the Gulf of Mexico, from Cape Sable to the Rio Grande.

4. Table C 3 is a sectional view of the steam-marine of the United States on the Pacific ocean.

5. Table D 4 is a general aggregate of the steam-marine of the United States on the seaboard.

6. Table E 1 (from 1 to 12 inclusive) is a series of tables, exhibiting the shipwrecks of the United States on the coast, by collection districts, in detail.

7. Table E 2 is a general aggregate of shipwrecks on the coast.

To understand these details fully, and also the nature and magnitude of steam navigation, the following additional facts, explanations, and subsidiary tables, are appended under separate heads:

### *Explanation of Terms.*

"Ocean steamers" mean that class of steamers which move on the ocean (or sea) exclusively, and are built to undergo the hazards of that navigation, whether they move across the ocean, or coastwise, or on gulfs.

"Propellers" mean that peculiar class of steam-vessels moved by the screw, of some kind.

"Ordinary steamers" mean all that class of steamers (not ferry-boats, and not included in the above classes) which are employed on rivers or bays, for purposes of passage, freight, or tow.

"Ferry-boats" mean only those steamers which are employed to cross rivers or narrow bays.

Within the last year several large ocean boats have been built to be propelled with the screw. Such of these as were registered prior to the 1st of July, 1851, are enumerated as ocean boats.

Under the term "snagged or sunk," in the tables of shipwrecks, are included those vessels lost on the coast, which were "stranded" by mistake or negligence, and such as were sunk by ice. In the tables referring exclusively to the interior, the words "by fire" denote as well the boats lost through explosions of boilers, as those that caught fire in some other way.

### *Ocean Steam Navigation.*

This term indicates, more, perhaps, than any one phrase, the progress, magnitude and importance of modern improvements in the physical arts. So recent as not to date beyond 1838, (when the first distinctly successful voyage of a steamship was made,) ocean steam navigation is now one of the great elements of modern commerce. On the Atlantic, the Pacific, the Gulf of Mexico, the Arctic, and the Indian seas, the ocean steamer has proved the most rapid and efficient engine of sea-locomotion. Yet so new is this application of steam, that the first regular line of ocean steamers on the Atlantic was established so late as 1840, and almost the whole

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of the immense increase since, has been the growth of the last three years. Nor is this all. The number of these steamers finished, built, or building since the 1st of July, 1851, (the date at which the annexed tables regularly terminate,) is equal to more than one-fourth of all those (of this class) previously existing in the Union! The tables exhibit ninety-six American ocean steamers, of 91,475$\frac{9}{3}$ tonnage, for the year ending 30th of June, 1851. Since that date there have been finished, built, or are now building, *twenty-six* ocean steamers of more than the average tonnage of those previously built. Of these, one was built at Cincinnati, on the Ohio, and is now navigating the Gulf of Mexico. Should this rapid rate of increase continue, even for a short period, our ocean steam-marine must rise to a gigantic magnitude, and give new forms and results not only to commercial navigation, but to the social intercourse of nations.

Some idea of the rapidity with which new lines of steam sea-ships are formed, may be derived from the following enumeration of routes, on which many of the new steamers are to ply, viz: Boston and Liverpool, (propeller line;) New York and Liverpool, (propeller line;) New York and Liverpool, (via St. John;) New York and Nicaragua; Boston and New York; New York and Norfolk; New York and Richmond; Philadelphia and Boston; Philadelphia and Richmond; Baltimore and Charleston.

Nearly all of these "lines" have been projected within the last few months, and on some of the routes, steamers of the largest size are now running.

The introduction of propeller (screw) ships into steam navigation seems to have supplied a desideratum in ocean commerce. While they make more certain and speedy voyages than sail-ships, they are better adapted to the transportation of freight, or a large number of passengers, than sea-steamers built merely for speed. Some idea of the propeller steamships recently built, may be formed from the following brief descriptions of the "Pioneer" and the "City of Pittsburg;" the former being the first of Spofford, Tileston & Co.'s line to Liverpool, and the latter of the Philadelphia and Liverpool line of propellers.

| | Pioneer. | City of Pittsburg. |
|---|---|---|
| Length on deck | 230 feet | 245 feet |
| Breadth of beam | 42 feet | 38 feet |
| Depth of hold | 31 feet | 33 feet |
| Tonnage | 1,903 tons | 1,672 tons |
| Average draught of water | 19 feet | 18 feet |
| Diameter of propeller | 16 feet | 16 feet |
| Length of propeller | 5 feet | 5 feet |
| Number of boilers | 2 | 3 |
| Length of boilers | 29 feet | 30 feet |
| Width of boilers | 16 feet | 11 feet 8 in. |
| Fuel consumed in 24 hours | 30 tons | |

The "City of Pitsburg" is a three-decked ship; the saloon, state-rooms, cabins, and all the accommodations of the vessel, being finished in the most elegant style of modern decorations. She has berths for 420 passengers, stowage for 1,000 tons of goods, ample room for stores, ice, water, and every convenience and security which can be devised for the comfort and confidence of voyages on the Atlantic. Such is the high standard of artistic

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excellence to which even the moderate-sized sea-ships have arriv
it must be recollected that the gigantic vessels of the "Collins li
several of those of the "New York and Chagres," and "Pacific Ma
ship" lines, exceed these in magnitude. These are examples of the fi
ocean steamships:

| | Tonnage. |
|---|---|
| Baltic (Collins line) | 2,800 |
| Humboldt (Havre line) | 2,197 |
| Winfield Scott (New York and New Orleans) | 2,100 |
| Georgia, (New York and Chagres) | 2,727 |

In regard to speed, the average voyages of the "Collins line" taken as affording the *minimum* of time, in crossing the Atlanti permanent *average* speed attainable in the present state of steam ma with such minor improvements as may reasonably be anticipated, i ted by the average time of the four shortest voyages made betwee pool and New York. They are as follows, viz:

| | Days. | Hours. |
|---|---|---|
| Pacific steamer | 9 | 20 |
| Do.....do | 10 | 2 |
| Baltic steamer | 9 | 2 |
| Do....do | 9 | 20 |
| Average of four voyages | 9 | 17 |

Less than ten days may, therefore, be regarded as the permanen of a voyage across the Atlantic by steam, in the present state c machinery. But, as no fixed limits to the power of steam in ove the resistance of air and water has yet been discovered, it is quite that human genius may yet increase that power in its application ships. The influence of this new species of navigation on comme human movement, is already palpable. A large portion of the mo able goods imported into this country have been freighted in ocean st and vessels of this description are now building for purposes of i tion. The increase of speed increases also the intercourse of the and the diffusion of knowledge. The rapidity with which we now intelligence from Europe and California, and the ease with which our countrymen visited in a brief period the late London Exhibit other and interesting evidences of the great and profoundly importa lution which is now being produced by the new applications of stean in the movement of human beings and the transition of human pro

*Propellers.*

It will be observed, that the aggregate of steamers includes number of screw-steamers. On the coast, these will be found almost

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in the districts of Philadelphia, Perth Amboy, Burlington, Middletown, and New London; and in the interior waters, on the lakes. The reason is obvious, when the particular trade in which they are engaged is examined. They are particularly adapted to the carriage of coal and heavy products on rivers and bays, to the towing of other boats, and to the commerce of the lakes; and in such business they are found, in the districts from which they are reported.

*Ordinary Steamers.*

The largest number of steamboats proper on the coast, are engaged in the carriage of passengers; and by far the largest and finest of these vessels are so engaged exclusively. On the western waters, however, they carry both freight and passengers; the cabins being above the deck, (so called) and the space below the main-deck being devoted wholly to freight. On both the coast and rivers there is a class of steamboats employed in *towing* other vessels. Between New Orleans and the Gulf, they tow sail-vessels up the Mississippi. On the Hudson river many are constantly engaged in towing the numerous *barges* referred to in the table for the district of New York. In the harbors of Boston and New York, several small but strong steamers are employed in towing vessels in and out of the harbors.

As specimens of the *best class* of passenger boats on the coast waters, (though not the largest,) the following description of two boats of the Troy line, on the Hudson river, may be taken:

| | Tonnage. | Engine. | Crew. | Miles traversed. |
|---|---|---|---|---|
| | *Tons and 95ths.* | | | |
| Empire | 936 55 | Low | 48 | 36,000 |
| Troy | 724 02 | Low | 46 | 36,000 |

Reference is made in the table to the steam-towed *barges* on the Hudson river. These are about one hundred and thirty in number, and are about 40,000 tons in all. As these barges make voyages once or twice a week, it will be readily seen what immense amounts of freight are transported in them. They are all towed by steam; a common steamer towing from two to six. Within a short time these barges have been introduced on the western waters, and many are now enrolled at New Orleans, Cincinnati, and other western ports.

*Ferry-boats.*

A large number of this class of steamers also appears in the tables. It will be seen that the greatest number of them is found in Boston, New York, and Camden, opposite Philadelphia. At these points occurs an immense movement of persons over the adjoining rivers. At New York especially, the transition of persons between New York, Brooklyn, Williamsburg, Jersey City, and Hoboken, will scarcely be credited by those who have not observed and calculated the masses of living beings who are constantly passing, by ferry, between those places. The results are given in the tables.

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*Number of passengers carried annually.*

This is at once one of the most interesting and most difficult inquiries presented in the Senate resolutions. In many cases, the officers of boats do not know themselves how many passengers; and in all, the number so depends on the season and the state of the trade, that different results are arrived at in different periods, and in different voyages, from the same class of boats. Certain data, however, have been established, which lead to as accurate results as are with common diligence attainable. These data are:

1. Ascertaining the precise number of passengers carried on some boats, where the number could be ascertained, and comparing them with other boats of the same class and trade.
2. Observations on ferry-boats, and particular voyages.
3. A series of observations, kept at certain places.
4. Ascertaining the number of trips made in a season by boats in a certain trade.

From these data, the aggregate number of passengers carried in steamboats has, it is believed, been arrived at with tolorable certainty. The following are some instances of the facts thus obtained. In the four following boats on the Hudson river, the number is supposed to have been obtained accurately:

| | |
|---|---|
| 1. The Empire | 39,790 |
| 2. The Troy | 41,870 |
| 3. The South America | 28,500 |
| 4 The Highlander | 12,500 |

These are boats of different classes, going to different places on the Hudson river.

On the Brooklyn, Hoboken, and Jersey City ferry-boats, observations were made to ascertain the *average* number of passengers per trip, and the number of trips. So also of other ferries.

Again, at Memphis, (Tennessee,) observations have been made for *nine years*, on the number of passengers on each boat touching at Memphis, by A. B. Shaw & Co., who have also kept a register of every steamboat which passed that place, on the Mississippi. The result of these observations was, that the steamboats on the Mississippi average *seventy-five passengers each.* As these observations covered a long period of time, and were made night and day, continually, they may be presumed to give the most accurate result attainable.

In the same manner, the register of arrivals of the same boats at New Orleans, St. Louis, &c., during a length of time, determines the average number of trips in different voyages; and so, also, the number of weeks of open navigation, and the routine of business in regular boats, give the number of their voyages.

Thus have been established the data on which the number of passengers has been calculated, that appear in the tables referred to in the first division of this report.

The movement of passengers over certain waters, in connexion with some of the great thoroughfares of the country, may be exhibited by combining the passengers carried on particular routes.

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The following table exhibits this movement on the principal tide-water lines:

| | Passengers. |
|---|---|
| Movement of persons on Long Island sound, by steam | 302,397 |
| Movement of persons on the Hudson river, by steamboat | 995,100 |
| Movement between New York and Philadelphia, by steamboats, from Amboy and on the Delaware | 840,000 |
| Movement on the Potomac, Chesapeake bay and James river | 422,100 |
| Movement between Wilmington and Charleston | 21,908 |
| Movement of passengers on the Gulf of Mexico | 169,508 |
| Movement of passengers on the Pacific coast | 79,209 |

The above table indicates only the movement by steamboat, although, in every instance, north of Cape Sable, the steamboat routes connect with railroad lines; and on the Long Island sound, the Hudson river, and between New York and Philadelphia, there are railroad lines immediately alongside of the steamboat routes, not connected with these steamboat lines. This movement shows merely the transition of persons on these routes by steamboat.

How far steamboats may be able to compete, hereafter, with railroad lines parallel with their routes, remains to be seen. In the last season, a steamboat running to Poughkeepsie, and another to New Hamburg, points on the Hudson river railroad, carried a large number of passengers to New York from those places. The fare was lower, though the time required was longer.

*Average distance, and miles traversed.*

In most of the districts, it will be observed, the *average distance* of passengers carried is given; but this is not carried into the aggregate, for the obvious reason, that any general average for large districts of country would have no special meaning of any interest. In lieu of that, an attempt has been made to substitute the *miles traversed* by steamboats, and thus obtain a general average. This is a deduction made from the number of trips made by the boats, and the length of the voyages, where they could be determined. Doubtless this estimate may be erroneous; but it serves to give a general idea of the length of distances traversed by steamboats annually.

*General averages.*

In the general aggregate (D 4) will be found a series of averages for tonnage, passengers, crews, &c.

*Shipwrecks.*

The second resolution of the Senate calls for the *number* of shipwrecks (or losses) of vessels; the *causes* of their loss, and the number of *lives lost*. By "shipwreck" or "loss," it was understood that *total* losses were meant. The number of partial disasters is so great, and the damage often so trivial, that it would be almost impossible to determine them accurately; and they would be comparatively unimportant, if attainable. The inquiry

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was, therefore, confined to *total losses*. Even in this, the means of knowledge were chiefly the marine shipping lists, where all disasters are recorded, the underwriters in large cities, and the reports of owners to the collectors. In small ports inquiries could be made of owners and sea-faring men, by which a more detailed account could be furnished. This was particularly the case at Eastport, Portland, Salem, Newport, New Haven, and other towns in the eastern States. For the large cities, however, the inquiry became more difficult; but, it is believed an approximation to the truth, near enough for general purposes, has been obtained. The result is given in the tables. The large number of schooners shipwrecked in Maine belong chiefly to the class of fishing vessels. This class is there very numerous, and exposed to the hazards of a dangerous coast.

Although not called for, the *classes* of vessels shipwrecked have been separated. This may be in some instances incorrect, but is believed to be generally accurate. The errors, if any, are in distinguishing between brigs and schooners; both, however, of the second class of vessels.

The class of disasters placed under the head of "tempest," doubtless includes a variety of forms in which this general disaster occurred; but it was found impossible to make more specific heads, with any accuracy.

*Insurances and insurance risks.*

It was thought desirable (though not included in the terms of the Senate resolutions) to ascertain, if possible, the value of property destroyed by shipwreck, and the amount of insurance paid on the losses. This was not in all cases possible, because there were many vessels wrecked which had no insurance, and whose value was not known; and also because there are many underwriters unwilling to furnish the precise amounts and valuations, risks and payments, on the particular vessels. On the coast, however, there were ***twenty-six districts***, where, owing to the smallness of the town rendering it possible to ascertain the owners of vessels wrecked, and to the diligent inquiries of collectors and revenue officers, and the readiness of underwriters to give information—the precise value of shipwrecked vessels, and the insurance on them—an approximation was made to the ratio of values and insurances on the Atlantic coast. These districts, their losses, values, and insurances paid, were as follows, viz:

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| Districts. | Vessels lost. | Value. | Insurance paid. |
|---|---|---|---|
| Eastport, Maine | 20 | $127,725 | $107,525 |
| Machias...do | 6 | 15,000 | |
| Ellsworth..do | 5 | 14,500 | 2,000 |
| Bangor....do | 3 | 26,300 | 3,200 |
| Belfast....do | 18 | 46,700 | 25,695 |
| Castine....do | 10 | 17,500 | 11,600 |
| Waldoborough, do | 25 | 110,000 | 75,000 |
| Bath.....do | 6 | 110,000 | 93,000 |
| Portland..do | 28 | 222,970 | 166,600 |
| Kennebunk do | 2 | 180,000 | 72,000 |
| Salem, Massachusetts.. | 3 | 40,000 | 29,000 |
| Fall River...do | 1 | 5,651 | 4,000 |
| Plymouth...do | 4 | 27,000 | 9,000 |
| New Bedford, do | 4 | 81,000 | 47,300 |
| Newport, Rhode Island | 4 | 72,500 | 37,000 |
| Providence....do | 1 | 5,000 | 4,000 |
| Stonington, Connecticut | 2 | 7,750 | 4,500 |
| New Haven.....do | 1 | 13,000 | 10,000 |
| Norfolk, Virginia | 1 | 6,000 | 6,000 |
| Camden, North Carolina | 1 | 3,600 | 1,000 |
| Washington....do | 2 | 12,000 | 5,000 |
| Newbern..... do | 2 | 11,000 | 4,000 |
| Baltimore, Maryland | 18 | 261,000 | 180,255 |
| Mobile, Alabama | 4 | 88,475 | 39,975 |
| Galveston, Texas | 2 | 7,500 | 2,700 |
| Portsmouth, New Hampshire | 2 | 47,000 | 18,000 |
| Total of 26 districts | 160 | 1,559,171 | 968,350 |

| | |
|---|---|
| Average value per vessel | $9,745 |
| Average insurance per vessel | 6,177 |
| Per cent. of value insured | 64 per cent. |

The above results are sufficiently numerous to establish a *relation* between the value of the total losses and the amount of insurance paid. The latter will be found, in the aggregate, to be very nearly two-thirds the former. In some particular instances, insurances are made to the full value of property.

In addition to these particular districts, the *aggregate* insurance paid in Boston, New York, and Philadelphia, has been obtained. As these are the great points for the concentration of the insurance capital of the Atlantic board, it is probable that this aggregate embraces four-fifths of the actual insurances paid in the Atlantic cities, and includes, of course, a considerable portion of that included in the above districts. By taking this aggregate and allowing one-fourth more, we have very nearly the amount of insurance paid in the Atlantic cities on the shipwrecks of the ocean. Thus:

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| | |
|---|---|
| Aggregate amount of marine insurance paid in New York | $3,520,161 |
| Aggregate amount of marine insurance paid in Philadelphia | 906,616 |
| Aggregate amount of marine insurance paid in Boston | 554,865 |
| Total | 4,981,642 |
| Add one-fourth | 1,245,410 |
| Probable amount on marine (not inland) insurances | 6,227,052 |

As the loss of goods, (thrown overboard often,) the losses paid on partial shipwrecks, the salvages paid to wreckers, and the insurance paid on foreign goods, in many instances, are very great, it is probable that not more than half the above amount has been paid on *total losses* of American vessels. If, now, it be considered that the total number of total losses reported is three hundred and eighteen, and that most of the large and valuable vessels are not included in the above table of special districts, this general result will be found to correspond very well with the result which may be duduced from that special table.

An interesting inquiry in marine insurance is, what is the relation between the amount of *risks* and the amount of *losses paid?* The very accurate table which was obtained by the collector of Philadelphia gives a valuable result in the solution of that question.

| | |
|---|---|
| Total amount of marine risks in Philadelphia | $81,155,837 |
| Total amount of losses paid in Philadelphia | 906,616 |
| Per cent. of losses on risks | 1.12 per cent. |

The number and amount of losses or partial wrecks on the keys and shoals of Florida are so great, that the underwriters of New York have employed an agent to reside at Key West, and attend to their interests. The report of Mr. J. C. Hoyt, the agent, gives the following results for 1850, and the results for six years, including 1850, as follows:

| | |
|---|---|
| Number of vessels ashore on the reefs, or in distress, for 1850 | 30 |
| Estimated value of vessels and cargoes | $929,000 |
| Amount of salvage | 122,800 |
| Amount of expenses | 77,169 |
| *Condensed report of six years.* | |
| Number of vessels under the head of marine disasters, reported | 209 |
| Value of vessels and cargo | $6,602,000 |
| Amount of salvage | 647,775 |
| Amount of expenses | 259,637 |
| Aggregate of salvage and expenses | 907,412 |
| Per cent. on the value of vessels and cargo | per cent. 14 |
| Average loss per year | 151,000 |

In relation to shipwrecks, it may be said, as of other casualties, that many of them are occasioned by negligence, ignorance, intemperance, and want of proper prudence. There is also another cause—the want of accurate knowledge of sunken rocks and shoals. This cause is being rapidly re-

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moved by the scientific labors and discoveries of the Coast Survey. The charts furnished from the bureau of the Coast Survey are invaluable; and their accuracy and beauty are said to exceed that of any thing of the sort yet furnished in Great Britain.

*Steam-marine of the interior.*

The order in which the several collection districts on the lakes and rivers of the interior are shown, commences on Lake Champlain, from which it extends up the St. Lawrence river and Lake Ontario to the Niagara river; thence up Lake Erie, the Detroit river, and Lake Huron, to Michilimackinac; thence up Lake Michigan to Chicago; thence across to the Mississippi river, and down that stream to New Orleans; thus extending, on a natural line of interior navigation, which has but two slight interruptions, from the waters of the Gulf of St. Lawrence to those of the Gulf of Mexico, a distance of not less than 2,850 miles, upon which is employed, for purposes of trade and travel, a steam tonnage of 69,166 tons.* The Ohio basin forms, of itself, a cross-section some 1,100 miles in length, embracing simply the districts on that river and its tributaries.

The series of tabular views marked F, present, in the order named above, the report for each collection district in the interior, of the information called for by the first of the two resolutions of the Senate. The information called for by the second of those resolutions is embraced in tabular statements in the body of this division of the report. In subsequent tabular views, alphabetical lists, &c., is given a large amount of information not included in the call of the Senate, but which was collected, and is here reported, as bearing, directly or indirectly, upon the points in reference to which the Senate sought information.

A summary of the first series of tables shows the following aggregate results as to the steam-marine of the interior, and the HUMAN MOVEMENT on the several lines along which it extends.

*This distance is traced from Montreal to Lewiston on the regular line of steamboat navigation; thence by land (the first interruption) to Buffalo; thence on the regular line of steamboat navigation to Chicago; thence by the Illinois and Michigan canal, (the second interruption,) and the Illinois river, to the Mississippi; and by that river to the Gulf.

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*Tabular view of the steam-marine of the United States on the lakes and rivers of the interior.*

| DISTRICTS. | No. of steamers. | Tonnage. | No. of officers, crews, &c. | PRESSURE. | | PASSENGERS CARRIED. | |
|---|---|---|---|---|---|---|---|
| | | | | High. | Low. | Number. | Average distances. |
| | | *Tons and 95ths.* | | | | | *Miles.* |
| Vermont | 11 | 3,240 05 | 139 | 4 | 7 | 155,000 | 55 |
| Champlain | 6 | 921 00 | 48 | 4 | 2 | 3,500 | 40 |
| Oswegatchie | 4 | 2,022 00 | 86 | 1 | 3 | 165,182 | 126½ |
| Cape Vincent* | | | | | | | |
| Sackett's Harbor | 1 | 66 00 | 4 | 1 | ..... | 1,240 | 11 |
| Oswego | 9 | 3,537 65 | 138 | 5 | 4 | 22,830 | 765 |
| Genesee | 2 | 495 00 | 22 | ..... | 2 | 210 | 550 |
| Niagara | 1 | 100 00 | 7 | 1 | ..... | 25,387 | 2 |
| Buffalo Creek | 42 | 25,989 55 | 877 | 35 | 7 | 197,837 | 1,128¼ |
| Presq'isle | 7 | 5,690 61 | 170 | 3 | 4 | 60,630 | 980 |
| Cuyahoga | 13 | 6,417 69 | 217 | 13 | ..... | | |
| Sandusky | 1 | 73 85 | 7 | 1 | ..... | 2,190 | 52 |
| Miami | 4 | 1,745 59 | 148 | 4 | ..... | 31,842 | 157 |
| Detroit | 47 | 16,468 85 | 798 | 26 | 21 | 721,430 | 163¾ |
| Michilimackinac | 12 | 1,746 77 | 159 | 12 | ..... | 41,212 | 401 |
| Milwaukie† | | | | | | | |
| Chicago | 4 | 651 51 | 40 | 4 | ..... | 85,800 | |
| Minnesota† | | | | | | | |
| Saint Louis | 131 | 31,883 92 | 2,340 | 131 | ..... | 367,798 | 892 |
| Memphis | 8 | 450 00 | 15 | 8 | ..... | 34,000 | |
| Vicksburg | 6 | 937 87 | 101 | 6 | ..... | 46,800 | |
| Natchez* | | | | | | | |
| New Orleans | 113 | 34,736 00 | 3,958 | 113 | ..... | 484,000 | |
| Nashville | 18 | 3,578 13 | 397 | 18 | ..... | 24,340 | 750 |
| Evansville† | | | | | | | |
| New Albany† | | | | | | | |
| Louisville | 61 | 15,184 66 | 1,913 | 61 | ..... | 270,000 | 1,001 |



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## STATEMENT—Continued.

| DISTRICTS. | No. of steamers. | Tonnage. | No. of officers, crews, &c. | PRESSURE. | | PASSENGERS CARRIED. | |
|---|---|---|---|---|---|---|---|
| | | | | High. | Low. | Number. | Average distances. |
| | | *Tons and 95ths.* | | | | | *Miles.* |
| Cincinnati | 111 | 24,709 07 | 2,789 | 111 | ..... | 2,460,796 | ¾ |
| Wheeling | 46 | 7,190 67 | 651 | 46 | ..... | 248,170 | 220 |
| Pittsburg | 112 | 16,942 68 | 2,588 | 112 | ..... | 466,656 | 280¾ |
| Total | 765 | 204,725 12 | 17,607 | 715 | 50 | 5,861,845 | |

* No enrolments within the year.

† New districts.



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Immediately west of Lake Superior lies the Minnesota district, with a collector at Pembina, on the line between our own and the British possessions, and a deputy at St. Paul, on the Mississippi, within the Territory of Minnesota. This is a new district, and steamboats employed on its waters have hitherto been enrolled at St. Louis. During the years 1850 and 1851, three or four good steamers ran regularly between St. Louis and St. Paul, and Fort Snelling, two of which took several large pleasure parties almost two hundred miles up the Minnesota (St. Peter's) river. A small boat (the only one yet built in the Territory) has been running the past year above the falls of St. Anthony, 1,700 miles from the mouth of the Mississippi. Steamers run earlier and later on the waters of Minnesota than on those of the region of the northern lakes, in the same latitude.*

Following the water-flow south from the Minnesota district, we reach the Gulf of Mexico by the Mississippi river, along which another interior section may be constructed, to show separately the strength of that division of our steam-marine. This section presents the following results:

*Steam-marine of the Mississippi valley.*

| Districts. | No. of steamers. | Tonnage. | No. of officers, crews, &c. | Passengers. |
|---|---|---|---|---|
| | | *Tons & 95ths.* | | |
| Minnesota† | | | | |
| Saint Louis | 131 | 31,833 92 | 2,340 | 367,793 |
| Memphis | 8 | 450 00 | 15 | 34,000 |
| Vicksburg | 6 | 937 87 | 101 | 46,800 |
| Natchez.‡ | | | | |
| New Orleans | 113 | 34,736 00 | 3,958 | 434,000 |
| Total | 253 | 67,957 84 | 6,414 | 882,593 |

† New district. ‡ No enrolment.

* This is owing more to differences in *the extremes* of temperature from peculiarity of position, than to those of *mean* temperature, as is shown by the following results of thermometrical observations for a year, on a nearly east and west line from the Mississippi river to the Sault St. Marie, passing over Green Bay and the island of Mackinac; for which observations Foster and Whitney's geological and topographical report of 1850 is authority.

| Station. | Lat. N. | Yearly mean temp. | Mean temp. of summer. | Mean temp. of winter. | Highest range of therm. | Lowest range of therm. |
|---|---|---|---|---|---|---|
| Fort Snelling. | 44° 53′ | 44°.8 | 72°.0 | 16°.3 | +115° | —23° |
| Fort Howard. | 44° 40′ | 44°.3 | 67°.7 | 20°.5 | + 99° | —16° |
| Mackinac..... | 45° 50′ | 41°.6 | 63°.7 | 20°.5 | + 84° | —17° |
| Fort Brady... | 46° 30′ | 39°.8 | 61°.7 | 17°.6 | + 98° | —30° |

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A cross-section, embracing the several districts in the basin of the Ohio river and its tributaries, (which may, from historical association, geographical position, and commercial development, be very properly presented alone,) gives these results:

*Steam-marine of the Ohio basin.*

| Districts. | No. of steamers. | Tonnage. | No. of officers, crews, &c. | Passengers. |
|---|---|---|---|---|
| | | *Tons & 95ths.* | | |
| Pittsburg | 112 | 16,942 68 | 2,588 | 466,661 |
| Wheeling | 46 | 7,190 67 | 651 | 243,170 |
| Cincinnati | 111 | 24,709 67 | 2,789 | 2,460,796 |
| Louisville | 61 | 15,180 66 | 1,913 | 270,000 |
| New Albany* | | | | |
| Evansville* | | | | |
| Nashville | 18 | 3,578 18 | 897 | 24,340 |
| Total | 348 | 67,601 81 | 8,388 | 3,464,967 |

* New districts.

By this summary of aggregates, it appears that the entire strength of the steam-marine of the lakes and rivers of the interior is comprised in 765 vessels, measuring 204,725$\frac{1}{95}$ tons, and employing 17,607 persons as officers, crews, &c. Of this aggregate 663 are ordinary steamers, measuring 184,-262$\frac{82}{95}$ tons, and employing 16,576 persons; 52 are propellers, measuring 15,729$\frac{1}{95}$ tons, and employing 817 persons; and 50 are ferry-boats, measuring 4,733$\frac{69}{95}$ tons, and employing 214 persons. Of the lake steam ers, 56 of the ordinary, and all but two of the propellers, are moved by high-pressure engines, and 48 of the ordinary by low-pressure. All of the river steamers and all of the ferry-boats have high-pressure engines. Low-pressure engines have at several periods been partially tried on the western rivers, and abandoned. In the year 1818 *three* boats of this description were built on those waters; in 1819, *seven* boats; in 1820, *two;* in 1822, *one;* in 1823, *one;* in 1824, *two;* in 1825, *six;* in 1826, *eight;* in 1827, *four;* in 1828, *two;* in 1829, *three;* in 1830, *two;* in 1831, *four:* total *forty-seven*, of which thirty-three were built at Cincinnati, five at Louisville, three at New Orleans, and the remaining six at different points on the Ohio. On the lakes, except for propellers, high-pressure engines have now comparatively few advocates, and within the last four or five years very few of them have been built.

The highest of the navigable waters of the United States is Lake Superior, which is embraced in the district of Michilimackinac, with the St. Mary's river, Green Bay, and the Straits of Mackinac. Following the water-flow from this district, we reach the Gulf of St. Lawrence through Lakes Huron, Erie, Ontario, and the St. Lawrence river; and the Atlantic

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coast by Lake Champlain and the New England improvements in one direction, and in another by the Erie canal and the Hudson river. Constructing an interior section along this line, the strength of our steam-marine engaged in the transportation of freight and passengers on our northern frontier, between the lower St. Lawrence and Lake Superior, is shown by the following statement:

*Steam-marine on the northern frontier of the United States.*

| Districts. | No. of steamers. | Tonnage. | Number of officers, crew, &c. | Passengers. | Average distance. |
|---|---|---|---|---|---|
| | | *Tons and 95ths.* | | | |
| Michilimackinac | 12 | 1,746 77 | 159 | 41,212 | ..... |
| Chicago | 4 | 651 51 | 40 | 85,880 | ..... |
| Milwaukie | ..... | ..... | ..... | ..... | ..... |
| Detroit | 47 | 16,468 85 | 793 | 721,430 | ..... |
| Miami | 4 | 1,745 59 | 148 | 31,842 | ..... |
| Sandusky | 1 | 78 85 | 7 | 2,190 | ..... |
| Cuyahoga | 13 | 6,417 69 | 217 | ..... | ..... |
| Presq'isle | 7 | 5,690 61 | 170 | 60,630 | ..... |
| Buffalo Creek | 42 | 25,989 55 | 877 | 197,837 | ..... |
| Niagara | 1 | 100 0 | 7 | 25,887 | ..... |
| Genesee | 2 | 495 0 | 22 | 210 | ..... |
| Oswego | 9 | 3,537 65 | 138 | 22,880 | ..... |
| Sackett's Harbor | 1 | 66 0 | 4 | 1,240 | ..... |
| Cape Vincent | ..... | ..... | ..... | ..... | ..... |
| Onondagahie | 4 | 2,022 0 | 86 | 166,182 | ..... |
| Champlain | 6 | 921 0 | 48 | 3,509 | ..... |
| Vermont | 11 | 3,240 5 | 139 | 155,000 | ..... |
| | 164 | 69,165 87 | 2,855 | 1,514,290 | ..... |

In order to show correctly the currents of actual travel by the waters of these several lines of interior collection districts with the local movement at the principal port of each, the following statement of aggregates is presented:

| Lines of travel. | Number of passengers. |
|---|---|
| 1. By the St. Lawrence and the lakes | 1,514,290 |
| 2. By the Mississippi and Missouri rivers | 882,593 |
| 3. By the Ohio and its tributaries | 3,464,967 |
| Total | 5,861,850 |

Showing a table of five million eight hundred and sixty-one thousand eight hundred and fifty passengers during the year, along these main lines of travel.



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While this statement is to be relied on so far as regards the aggregate travel by steamers along each of the *entire lines* named, it does not show correctly the *proportion* of that travel which belongs properly to the returns of *any one* of the several collection districts. From the manner in which the information was called for, as well as from the nature of the case, the facts had to be collected and the statements made up as they are here presented. In the report for the special district wherein any particular steamer was owned and enrolled, had necessarily to be shown the number of passengers which she had carried in the course of the year, although she may have transported to and from that district a smaller number than to and from any other along the line upon which she ran. There are two partial exceptions to this rule, referred to in notes on subsequent pages.

The main travel to and from the Chicago and the Niagara districts, although in steam-vessels owned and enrolled elsewhere, is shown in the returns for those districts. But in general this was not practicable.

Regarding the *human movement* along the main lines of travel in the interior (by which is meant the flow into and out of the leading channels of steam navigation, as well as the stream running directly in them) as a matter of general interest, if not of special importance, in connexion with the inquiry of the Senate, efforts were made to collect the statistics which would show this movement in an authentic form. Wherever a railroad entered the principal port of any district, thus connecting land travel with water travel, an official statement was obtained of the number of passengers conveyed upon it for the year embraced by the other subjects of inquiry. Wherever no such improvement was found entering such port, if a canal entered it, statements of the number of passengers in and out by that channel were obtained from the proper sources. And where neither a railroad nor a canal entered the principal port of a district, application was made to the proprietors of regular lines of stage coaches for the number of passengers that they had conveyed to and fro during the year. From the information thus collected, added to the number of passangers by steam-vessels, reported in previous tables, the following view is presented of the human movement along each of the three great lines of interior travel heretofore specified:

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*Statement of the total number of persons who arrived at and departed from the principal port of each collection district of the interior, by steamers, railroad cars, stage-coaches, canal boats, and steam ferry-boats, during the year ending June 30, 1851.*

## LINE OF THE NORTHERN FRONTIER.

| Ports. | By steamboats. | By railroad cars. | By canals. | By stages. | By steam ferry-boats. | Total. |
|---|---|---|---|---|---|---|
| Burlington.....Vermont | 155,000 | 81,816 | | | | 236,816 |
| Plattsburg.....New York | 3,500 | | | | | 3,500 |
| Ogdensburg.....do | 60,562 | 79,408 | | | 104,620 | 244,590 |
| Sackett's Harbor.....do | | | | 5,952 | 1,240 | 7,192 |
| *Cape Vincent.....do | | | | | | |
| Oswego.....do | 22,880 | 33,615 | 280 | | | 56,675 |
| Rochester.....do | 210 | 277,139 | | | | 277,349 |
| Lewiston.....do | 22,987 | 45,944 | | | 2,400 | 71,331 |
| Buffalo.....do | 171,557 | 381,586 | 48,000 | | 26,280 | 622,423 |
| Erie.....Pennsylvania | 60,630 | | | 21,920 | | 82,550 |
| Cleveland.....Ohio | | | | | | |
| Sandusky City.....do | 2,190 | 157,751 | | | | 159,941 |
| Toledo.....do | 31,842 | | | | | 31,842 |
| Detroit.....Michigan | 369,430 | 197,399 | | | 352,000 | 918,829 |
| Mackinaw.....do | 41,212 | | | | | 41,212 |
| Chicago.....Illinois | 85,800 | 71,253 | 42,770 | | | 198,823 |
| Total | 1,027,750 | 1,325,911 | 86,000 | 27,872 | 486,540 | 2,953,073 |

* No enrolments.



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## STATEMENT—Continued.

### LINE OF THE MISSISSIPPI.

| Ports. | By steamboats. | By railroad cars. | By canals. | By stages. | By steam ferry-boats. | Total. |
|---|---|---|---|---|---|---|
| *St. Paul, Minnesota | | | | | | |
| Saint Louis, Missouri | 318,713 | | | 18,582 | 49,080 | 386,375 |
| Memphis, Tennessee | | | | | 34,000 | 34,000 |
| Vicksburg, Mississippi | 10,800 | | | | 36,000 | 46,800 |
| †Natchez.....do | | | | | | |
| New Orleans, Louisiana | 419,000 | | | | 15,000 | 434,000 |
| Total | 748,513 | | | 18,582 | 134,080 | 901,175 |

### LINE OF THE OHIO.

| | | | | | | |
|---|---|---|---|---|---|---|
| Pittsburg, Pennsylvania | 428,745 | | | | 37,911 | 466,656 |
| Wheeling, Virginia | 139,170 | | | 27,998 | 104,000 | 271,168 |
| Cincinnati, Ohio | 270,796 | 159,287 | | | 2,190,000 | 2,620,083 |
| Madison, Indiana, in the district of Cincinnati | | 70,149 | | | | 70,149 |
| Louisville, Kentucky | 120,000 | 86,500 | | | 150,000 | 306,500 |
| *New Albany, Indiana | | | | | | |
| *Evansville.....do | | | | 775 | | 775 |
| Nashville, Tennessee | 24,340 | | | | | 24,340 |
| Total | 988,051 | 265,936 | | 28,773 | 2,481,911 | 3,759,671 |

* New districts.

† No enrolments.



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STATEMENT—Continued.

RECAPITULATION.

| Lines. | By steamboats. | By railroad. | By canals. | By stages. | By steam ferry-boats. | Total. |
|---|---|---|---|---|---|---|
| Northern frontier | 1,027,750 | 1,325,911 | 86,000 | 27,872 | 486,540 | 2,953,073 |
| Mississippi valley | 748,513 | ..... | ..... | 18,582 | 134,080 | 901,175 |
| Ohio basin | 983,051 | 265,936 | ..... | 28,773 | 2,481,916 | 3,759,676 |
| Total | 2,759,314 | 1,591,847 | 86,000 | 75,227 | 3,102,536 | 7,614,924 |





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It is not surprising that a first attempt to collect and embody this information should have fallen short of complete success at all points. The wonder is, rather, that so many facts should have been obtained, of a reliable character, as are given in the preceding tables. The deficiencies are few in number; and had more time been devoted to the collection of this particular class of facts in the Cuyahoga, Miami, and Vicksburg districts, they would have been hardly worth mentioning.

There are several centres of interior commerce and navigation, at which it would seem of interest to know the *radiation* of trade and travel, as shown by natural and artificial channels of communication, and the boats and other descriptions of conveyance in or upon them. One of these centres is at the head of the Ohio river, another at the foot of Lake Erie, a third at the head of Lake Michigan, and a fourth on the Mississippi, below the outflow of the Illinois and the Missouri rivers. The heavy commerce that centres midway of the Ohio valley, though reaching up the Muskingum, the Wabash, the Cumberland, and the Mississippi, by natural streams, and back into Ohio and Indiana by artificial channels, is more *direct* in its main lines, which extend to Pittsburg in one direction, and to New Orleans in another. In the first and last of the four districts named, the number of boats and men, and the amount of tonnage, employed on each of the several streams to which the trade of those districts extends, as well as the *travel* upon each, are shown by the following subdivisions of the whole number of boats therein severally enrolled.

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| No. of steamers from St. Louis. | In what trade. | Tonnage. | No. of officers, crews, &c. | Pressure. | | Number of passengers. | Average distance carried. | Longest trip. |
|---|---|---|---|---|---|---|---|---|
| | | | | High. | Low. | | | |
| | | *Tons and 95ths.* | | | | | | *Miles.* |
| 26 | To New Orleans | 12,575 70 | 628 | All | None. | 64,008 | ..... | 1,195 |
| 27 | To Illinois river | 4,527 86 | 412 | " | " | 48,799 | ..... | 320 |
| 28 | To Missouri | 6,148 48 | 496 | " | " | 57,284 | ..... | 1,780 |
| 42 | To Upper Mississippi | 7,088 61 | 716 | " | " | 140,822 | ..... | 960 |
| 3 | To Cairo | 668 53 | 54 | " | " | 7,800 | ..... | 200 |
| 5 | Ferry-boats | 885 19 | 35 | " | " | 49,080 | ..... | 1 |
| 131 | | 31,888 92 | 2,340 | | | 367,793 | ..... | ..... |



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## *Subdivision of the Pittsburg district.*

| No. of steamers at Pittsburg. | In what trade. | Tonnage. | No. of officers, crew, &c. | Pressure. | | Number of passengers. | Average distance carried. | Longest trip. |
|---|---|---|---|---|---|---|---|---|
| | | | | High. | Low. | | | |
| | | *Tons and 95ths.* | | | | | *Miles.* | |
| 7 | Cincinnati | 2,451 63 | 470 | All | None. | 89,828 | 479 | ..... |
| 16 | Monongahela river | 1,332 78 | 224 | " | " | 112,142 | 56½ | ..... |
| 2 | Yonghiogena river | 294 0 | 29 | " | " | 9,862 | 33 | ..... |
| 2 | Beaver river | 208 0 | 30 | " | " | 70,600 | 29 | ..... |
| 2 | Wheeling | 371 70 | 34 | " | " | 19,600 | 93 | ..... |
| 3 | Allegheny river | 334 47 | 42 | " | " | 7,000 | 56 | ..... |
| 3 | Zanesville | 370 0 | 44 | " | " | 2,890 | 257 | ..... |
| 42 | St. Louis, Nashville, &c. | 8,817 0 | 1,296 | " | " | 110,823 | 1,133 | ..... |
| 18 | Transient boats | 1,500 0 | 292 | " | " | 6,500 | 150 | ..... |
| 11 | Coal steamers | 674 0 | 84 | " | " | ..... | 494 | ..... |
| 11 | Ferry steamers | 594 0 | 44 | " | " | 37,911 | ½ | ..... |
| 112 | | 16,942 8 | 2,580 | | | 466,656 | ..... | ..... |



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The main trade of each of the other four districts named, is in a direct line from the second, nearly north and south, by Lake Michigan and the Illinois river, and the Illinois and Michigan canal; and from the third, in a direction indicated by the course of Lakes Erie and Huron and that of the Erie canal. The points embraced by the ramifications of travel, however, are more numerous; and hence the following subdivisions are intended only to include them, and show the total number of passengers who arrived at and departed from the principal port of each of these districts, by the several descriptions of conveyance mentioned, during the period included in all the preceding tables—the year ending 30th June, 1851.

*Buffalo subdivision.*

| Conveyance. | No. of passengers arrived at and departed from Buffalo. |
|---|---|
| By ordinary steamers | 157,251 |
| By propellers | 14,800 |
| By ferry-boats | 26,280 |
| By the Buffalo and Rochester railroad | 262,386 |
| By the Buffalo and Niagara Falls railroad | 119,200 |
| By the Erie canal | 43,000 |
| Total | 622,423 |

*Chicago subdivision.*

| Conveyance. | No. of passengers arrived at and departed from Chicago. |
|---|---|
| By ordinary steamers | 81,960 |
| By propellers | 8,900 |
| By the Galena and Chicago Union railroad | 71,258 |
| By the Illinois and Michigan canal | 42,770 |
| Total | 199,888 |

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*Recapitulation as to travel.*

| Principal ports. | No. of passengers. |
|---|---|
| To and from St. Louis | 367,795 |
| To and from Pittsburg | 466,656 |
| To and from Buffalo | 622,423 |
| To and from Chicago | 199,883 |
| Total | 1,656,757 |

Showing a recorded movement, at these four commercial centres of the interior, (of the young Northwest, indeed,) of one million six hundred and fifty-six thousand seven hundred and fifty-seven persons in the course of a year, where the resident population is but 217,946. No fact can better illustrate the activity of our people.

By the national census for the year 1850, the population of each of the four cities at which this movement is shown, is stated as follows:

| | |
|---|---|
| St. Louis | 77,860 |
| Pittsburg, 46,601; with Allegheny city | 67,862 |
| Buffalo | 42,261 |
| Chicago | 29,963 |
| Total of the four commercial centres | 217,946 |

The information called for by the Senate in the second resolution, is presented in the following statement. And, with reference to this, it may be proper to say that the year which ended on the 30th June, 1851, was one of unusual exemption from the accidents and calamities of navigation on the lakes and rivers of the interior. The destruction of property, and the loss of life, were both much less in this year, than for either of many years preceding.

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*Statement of the number of steam and sail vessels enrolled, registered, or licensed, in the several collection districts of the United States, that were lost on the lakes and rivers of the interior in the year ending June 30, 1851, with the cause and manner of loss, and the number of persons who perished thereby.*

| DISTRICTS. | NUMBER OF VESSELS LOST. | | | | | | | | | | NUMBER OF PERSONS LOST. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | By tempest. | | By fire. | | By collision. | | By snags. | | Total. | | On the lakes. | On the rivers. | Total. |
| | Lakes. | Rivers. | Lakes. | Rivers. | Lakes. | Rivers. | Lakes. | Rivers. | Lakes. | Rivers. | | | |
| Vermont, Vt | | | | | | | | | | | | | |
| Champlain, New York | | | | | | | | | | | | | |
| Oswegatchie.....do | | | | | | | | | | | | | |
| Cape Vincent....do | | | | | | | | | | | | | |
| Sackett's Harbor.do | 2 | | 2 | | | | | | 4 | | | | |
| Oswego.....do | 15 | | 1 | | 4 | | | 2 | 20 | 2 | 28 | | 28 |
| Genesee.....do | | | | | | | | | | | | | |
| Niagara.....do | | | | | | | | | | | | | |
| Buffalo Creek....do | 8 | | | | | | | | 8 | | 11 | | 11 |
| Presq'isle, Pennsylvania | 1 | | | | | | | | 1 | | 4 | | 4 |
| Cuyahoga, Ohio | 2 | | | | | | | | 2 | | 8 | | 8 |
| Sandusky...do | | | | | 1 | | | | 1 | | | | |
| Miami.....do | | | | | | | | | | | | | |
| Detroit, Michigan | 3 | | | 2 | | | | | 3 | 2 | 1 | | 1 |
| Michillimackinac, Michigan | | | | | | | | | | | | | |
| Milwaukie, Wisconsin | | | | | | | | | | | | | |
| Chicago, Illinois | 2 | | | | 1 | | | | 3 | | 20 | | 20 |
| Minnesota, Minnesota | | | | | | | | | | | | | |
| Saint Louis, Missouri | | 1 | | 1 | | 4 | | 5 | | 11 | | 97 | 97 |
| Memphis, Tennessee | | | | | | | | | | | | | |
| Vicksburg, Mississippi | | | | | | | | | | | | | |
| Natchez.....do | | | | | | | | | | | | | |
| New Orleans, Louisiana | | | | 11 | | 1 | | 5 | | 17 | | 51 | 51 |
| Nashville, Tennessee | | | | | | | | 1 | | 1 | | | |



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## STATEMENT—Continued.

| DISTRICTS. | NUMBER OF VESSELS LOST. | | | | | | | | | | NUMBER OF PERSONS LOST. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | By tempest. | | By fire. | | By collision. | | By snags. | | Total. | | On the lakes. | On the rivers. | Total. |
| | Lakes. | Rivers. | Lakes. | Rivers. | Lakes. | Rivers. | Lakes. | Rivers. | Lakes. | Rivers. | | | |
| Evansville, Indiana | | | | | | | | | | | | | |
| New Albany..do | | | | | | | | | | | | | |
| Louisville, Kentucky | | | | 3 | | | | 4 | | 7 | | 29 | 29 |
| Cincinnati, Ohio | | 1 | | 11 | | 7 | | 15 | | 34 | | 451 | 451 |
| Wheeling, Virginia | | | | | | | | | | | | | |
| Pittsburg, Pennsylvania | | | | | | 1 | | 1 | | 2 | | | |
| Total | 33 | 2 | 3 | 28 | 6 | 13 | | 33 | 42 | 76 | 67 | 628 | 695 |



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The information embodied in the following table, though not called for, was regarded as bearing so directly on the subjects of the Senate's inquiry, as to authorize a considerable effort to be made to collect it. With a single exception, the amounts of marine risks taken, and the aggregates of losses paid, were obtained directly from the underwriters themselves, who authorized correct statements to be made from their books. This information may therefore be relied upon with more than the usual confidence given to such matters.

The accounts of the value of property destroyed, given in the right-hand column, were made up in part from information in possession of custom-house officers, in part from incidental notes made in insurance offices at the time of the occurrence of disasters, and in part from the estimates of intelligent and candid steamboat owners, agents and officers, modified by such calculations as could be made from the data thus and otherwise obtained.

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## MARINE LOSSES AND INSURANCE.

*Statement of the amount of marine risks taken, and of losses paid, on vessels and cargoes of the United States, in the several collection districts of the interior, for the year ending June 30, 1851.*

| DISTRICTS. | AMOUNT INSURED. | | | LOSSES PAID. | | | Value of property destroyed. |
|---|---|---|---|---|---|---|---|
| | On hulls. | On cargoes. | Total. | On hulls. | On cargoes. | Total. | |
| Vermont | $20,000 00 | $387,455 00 | $407,455 00 | ..... | $500 00 | $500 00 | $500 00 |
| Champlain | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Oswegatchie | 3,500 00 | 19,122 59 | 22,622 59 | ..... | ..... | ..... | ..... |
| Cape Vincent | 4,662 00 | 1,802 00 | 6,464 00 | ..... | ..... | ..... | ..... |
| Sackett's Harbor | 85,306 00 | 173,698 00 | 259,004 00 | $12,008 00 | 11,000 00 | 23,008 00 | 26,300 00 |
| Oswego | 673,350 00 | 1,693,216 00 | 2,366,566 00 | 36,066 77 | 15,017 43 | 51,084 20 | 70,830 41 |
| Genesee | 30,400 00 | 105,000 00 | 135,400 00 | ..... | ..... | ..... | ..... |
| Buffalo Creek | 1,169,100 00 | 5,227,668 00 | 6,396,768 00 | 46,100 00 | 43,000 00 | 89,100 00 | 206,934 00 |
| Presq'isle | ..... | ..... | ..... | ..... | ..... | ..... | 500 00 |
| Cuyahoga | 189,000 00 | 1,962,275 00 | 2,151,275 00 | 4,833 66 | 1,730 00 | 6,563 66 | 8,521 00 |
| Sandusky | ..... | ..... | ..... | 350 00 | ..... | 350 00 | 1,650 00 |
| Miami | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Detroit | ..... | ..... | ..... | ..... | ..... | 12,900 00 | 63,400 00 |
| Michillimackinac | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Milwaukie | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Chicago | ..... | ..... | ..... | 26,997 00 | 11,430 00 | 38,427 00 | 44,618 00 |
| Minnesota | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| St. Louis | ..... | ..... | ..... | ..... | ..... | 162,498 00 | 230 492 |
| Memphis | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Vicksburg | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Natchez | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| New Orleans | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Nashville | ..... | ..... | ..... | ..... | ..... | 186,624 17 | 243,949 00 |
| Evansville | ..... | ..... | ..... | ..... | ..... | ..... | ..... |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| New Albany | | | | | | | |
| Louisville | | | | | | 184,800 00 | 310,000 00 |
| Cincinnati | 956,357 49 | 16,082,082 33 | 17,088,439 82 | 76,021 59 | 181,406 89 | 257,428 48 | 819,050 32 |
| Wheeling | 80,888 33 | 688,984 00 | 764,767 33 | | 1,989 03 | 1,989 03 | 2,652 00 |
| Pittsburg | 1,813,418 33 | 3,008,966 00 | 4,822,379 33 | 16,462 60 | 18,972 38 | 30,434,98 | 38,715 00 |
| Total | 5,025,922 15 | 29,345,218 92 | 34,371,141 07 | 218,889 62 | 280,045 73 | 995,207 32 | 1,568 106 78 |



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The total amount of property thus shown to have been destroyed on the lakes and rivers of the interior, in the course of the year which ended on the 30th day of June, 1851, is much below the common estimate. But it is here presented only as an *approximation*, to receive just so much respect as statements made up in the manner of this are generally entitled to. It is perhaps quite as likely to be near the truth, however, as the exaggerated estimates usually made in such cases by interested parties who have a particular purpose to subserve. And with reference to it, must be steadily borne in mind the fact, heretofore mentioned, that the year embraced was one of unusual exemption from serious disasters on the lakes and interior rivers of the United States.

Efforts were made to obtain reliable accounts of losses of steam and sail-vessels on the lakes for a series of ten to fifteen years, but failed through want of time to prosecute them in the right direction. This is regarded as a portion of the history of our interior commerce and navigation, which ought to be collected and written without longer delay.* Similar efforts to obtain authentic information as to losses of steamboats on the great rivers of the Ohio basin and the Mississippi valley, were far more successful; and an alphabetical list is herewith presented, (marked G) made up with care by the surveyor of customs at St. Louis, of all the boats lost on those rivers during the year 1849, with an account of the time, place and manner of each disaster, and an estimate of the value, in every instance, of boat and cargo when lost.

This list embraces the names of eighty-three boats as totally destroyed in that year, the aggregate value of which, including that of cargo on board at the time of disaster, is stated at *one million five hundred and eighty-five thousand four hundred dollars*. In analyzing this statement, it is found that no less than forty-six of the boats were lost by *fire!* Of the remainder, twenty-six were sunk, chiefly by striking *snags*, and eleven lost by collision, explosion, &c.

In addition to the above number, (eighty-eight,) an alphabetical list

* While drawing up this report, a communication has been received from the collector at Buffalo, enclosing a statement of marine disasters and losses of life and property on the lakes in 1851, as prepared by Captain G. W. Rounds, agent for the Northwestern Insurance Company at Buffalo, and published in the Buffalo Commercial Advertiser of January 5, 1852. This statement embraces a list of 263 disasters in that year to American and British sail and steam-vessels, the destruction of property by which is estimated at an aggregate of $730,537, and the loss of lives stated at 79. In all these disasters, however, there are but 49 of a character which brought them within the scope of the Senate's inquiry; and of these 49 all but 11 occurred after the 30th June last, and only 8 were steam-vessels, but one of which was lost within the year embraced in the tables of this report.

Captain Rounds has published a similar statement for each of the last four years, the aggregates of which he gives, as follows, at the close of his list of losses for 1851:

*Loss of property and life.*

| Years. | Amount of property. | No. of lives. |
|---|---|---|
| 1848 | $420,512 | 55 |
| 1849 | 868,171 | 84 |
| 1850 | 558,826 | 395 |
| 1851 | 530,537 | 79 |
| Total for four years | 2,078,046 | 563 |

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(marked H,) is herewith presented, of *twenty-eight* steamers that were either sunk or otherwise seriously damaged on the same waters, during the year 1849, but which were subsequently raised, repaired, and again put in motion. This list was also compiled by the surveyor at St. Louis, and is quite full of details as to the place and character of each disaster. The damage done to boats and cargo in these latter accidents, it is supposed, if added to the aggregate already named, would carry the estimate of the value of property destroyed by steamboat disasters on the waters of the Mississippi and its tributaries in the year 1849, up to a total of *two millions of dollars*.

A third list is likewise herewith presented, (marked I) arranged in alphabetical order, containing the names of 618 steamboats lost on the rivers of the Ohio basin and the Mississippi valley, from the period of the first introduction of steam navigation thereon to the close of the year 1848. This elaborate and valuable document was prepared, on request, by Captain Davis Embree, one of the oldest, best known, and most intelligent steamboat masters ever engaged upon the western waters.

This list shows the place where, and the time when, each of the boats so lost was built; the amount of its tonnage; the date of its loss; the length of time it had been running when lost; its original cost; the depreciation of its value by use; and the sum finally lost in its destruction. Of the 618 boats it embraces, 45 were lost by *collisions*, 104 by *fires*, and 469 by *snags* and other obstructions to navigation.

The following statement shows aggregate results:

| Causes. | Number of boats. | Tonnage. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|
| Lost by collisions..... | 45 | 7,769 | $780,286 | $346,762 | $383,524 |
| Lost by fires..... | 104 | 22,058 | 2,064,512 | 1,096,143 | 968,369 |
| Lost by snags..... | 469 | 79,261 | 7,104,950 | 8,733,852 | 8,368,098 |
| Totals..... | 618 | 109,088 | 9,899,748 | 5,176,757 | 4,719,991 |

The losses sustained through explosions, collapsing of flues, and bursting of steam-pipes, are not included in this statement. With reference to losses of those descriptions, some interesting information is given at the close of Captain Embree's list, as also concerning the average life of steamboats on the western waters, the subjects of marine insurance thereon, the monthly and yearly cost of running boats, &c.

The history of the rise and progress of the steam-marine of the United States, is one of the most interesting and wonderful things in our national advancement. Although one steamboat was built at Pittsburg as early as the year 1811, and although eleven other boats were built on the Ohio river and its headwaters within the next five years, it was not until the year 1817 that steam navigation could be said to have been fairly introduced upon the Mississippi and its tributaries. Previous to this year, there were twelve steamboats upon these waters, having an aggregate carrying capacity of 2,235 tons. From 1817 to 1834, the number of living boats increased to 230, and the aggregate of tonnage to 39,000 tons. In 1842 there were



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475 boats on the same waters: in 1851 this number had been increased to 601.

Official reports made to the Treasury Department in 1842, stated in detail the steamboat tonnage on the Mississippi and its tributaries in that year. The following table shows the living increase from 1842 to 1851.

*Comparative statement.*

| Districts. | Tonnage. | | | |
|---|---|---|---|---|
| | 1842. | 1851. | Increase. | Decrease. |
| New Orleans | 28,153 | 34,736 | 6,583 | ..... |
| Saint Louis | 14,725 | 31,834 | 17,109 | ..... |
| Cincinnati | 12,025 | 24,709 | 12,684 | ..... |
| Pittsburg | 10,107 | 16,943 | 6,836 | ..... |
| Louisville | 4,618 | 15,181 | 10,563 | ..... |
| Nashville | 3,810 | 3,578 | ..... | 232 |
| Wheeling | 2,595 | 7,191 | 4,596 | ..... |
| Vicksburg | ..... | 938 | 938 | ..... |
| Memphis | ..... | 450 | 450 | ..... |
| | 76,038 | 135,560 | 59,759 | 232 |

The year following the real commencement of regular steamboat navigation on the waters of the Mississippi and its tributaries, (1817,) the first steamer employed on the upper lakes, was built and launched on Lake Erie. In 1819 the waters of Lake Huron were first ploughed by the keel of a steamer, and in 1826 those of Lake Michigan. In 1832 a steamboat first appeared at Chicago, and in 1833 there were but eleven small steamers on the three lakes named. This date may therefore be fairly taken as that of the real commencement of steamboat navigation on the upper lakes.

Ten years later, (February, 1843,) a report was made to Congress of the number and tonnage of steamboats employed on those waters, "from January 1, 1841, to January 1, 1843." Though this is a very loose way of stating a matter of this kind, and does not give the true amount of the steam tonnage enrolled and employed in either *one* of the two years included—necessarily overstating it—yet the facts thus presented are used for the purpose of comparing them with those now ascertained, as showing correctly the steam tonnage of the year which ended on the 30th June, 1851.

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*Comparative statement.*

| Districts. | Tonnage. | | | |
|---|---|---|---|---|
| | 1841–'43. | 1851. | Increase. | Decrease. |
| Buffalo creek | 6,773 | 25,990 | 19,217 | ..... |
| Presq'isle | 2,813 | 5,691 | 2,878 | ..... |
| Cuyahoga | 1,855 | 6,418 | 4,563 | ..... |
| Miami | 887 | 1,745 | 858 | ..... |
| Detroit | 2,053 | 16,469 | 14,416 | ..... |
| Mackinaw | ..... | 1,746 | 1,746 | ..... |
| Chicago | ..... | 652 | 652 | ..... |
| Total | 14,381 | 58,711 | 44,330 | ..... |

These comparative statements show that in a period of nine years, the steamboat tonnage of the Mississippi valley has nearly doubled itself, and that in a period of eight years that of the upper lakes has more than quadrupled itself: very significant facts touching increase of population, production and trade.

The average size of steamboats now running on the lakes is found to be 137 tons; that of the steamboats of the Ohio basin 206$\frac{33}{95}$ tons; and that of those of the lower and upper Mississippi, the Arkansas, the Missouri and the Illinois rivers, 273$\frac{1}{5}$. On the Mississippi and Ohio rivers there are many steamers of from 300 to 500 tons each, and a number from 600 to 800 each; but the large number of light-draught boats, built to run in periods of low water on those rivers, and in all seasons on the smaller streams emptying into them, carry the general averages down to the figures given above. Several of the passenger steamers of the lakes are of eleven hundred tons and upwards each.

In the midst of great things, the greatest are liable, from long-continued familiarity, to lose their distinctive importance. It is, in such cases, only through comparison with like objects in a different locality, or under different circumstances, that they can be made to regain their lost magnitude. Steamboats are common things in the United States, and steam tonnage is a familiar topic on 'Change and in the halls of legislation. Hence men are continually liable to underrate the extent and importance of this branch of our commercial marine, and to under-estimate its claims to the fostering care of government.

That there are a very large number of steam-vessels employed in navigating the waters of the interior of the United States, is a fact of common observation, which excites no special attention: but that the aggregate tonnage of these vessels is greater than that of the whole steam-marine of Great Britain and her dependencies is not generally known, and hence the influence of this comparative fact is lost upon the minds of our people and our legislators. Yet that this is *true*, the following statements render almost if not entirely indisputable.

In the year 1834, according to McCullough's Gazetteer, the whole number of steam-vessels belonging to Great Britain and her dependencies was 722,

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the aggregate capacity of which was 82,716 tons. This gives an average of 114.56 tons for each boat.

The last report upon English steam-vessels received in this country places the number at 1,184 boats, but gives no return of tonnage. At the average size of the vessels reported in 1834, (114½ tons) this makes the present steam tonnage of Great Britain 135,568 tons in the aggregate. But since the building of ocean steamers in England, the average of 1834 has doubtless been somewhat increased. At 120 tons for each vessel, the aggregate is raised to 142,080 tons. The comparison then stands thus:

*Comparative statement.*

| Country. | Number. | Tonnage. |
|---|---|---|
| | | *Tons and 95ths.* |
| Great Britain | 1,184 | 142,080 00 |
| Northern lakes of the United States | 164 | 69,165 87 |
| Mississippi valley.....do | 249 | 67,957 84 |
| Ohio basin.....do | 348 | 67,601 31 |
| | 761 | 204,725 12 |

| | Tons and 95ths. |
|---|---|
| Total for interior of the United States | 204,725 12 |
| Total for Great Britain | 142,080 00 |
| Excess of interior of the United States | *62,645 12 |

An important and most gratifying result, and one which justifies the claims that have been made in Congress and elsewhere, in behalf of the great interest of internal commerce and navigation.

The cost of steamboats on the lakes and rivers of the interior, varies from eighty to ninety and from ninety to one hundred dollars per ton. Taking the lowest price, which is that attainable in the Ohio basin, as the standard, we have as the original value of the 204,725$\frac{2}{5}$ tons of steam tonnage engaged in the transportation of passengers and the carrying trade on the lakes and rivers of the United States, for the year ending June 30, 1851, an aggregate of sixteen million three hundred and seventy-eight thousand dollars; an amount of capital that goes entirely out of existence, and has to be re-invested every three and a half to four years—the period of the "natural life" of a steamboat on the waters of the interior.

This fact indicates very clearly the immense extent of the employment provided and of the material consumed, in keeping up the steam tonnage of the United States to the standard required by the travel and trade of the country.

*This does not include any portion of the steam tonnage of the Atlantic seaboard and the Gulf coast.

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*General Averages.*

The following general averages and results are derived from statements embodied in this division of the report, and from the tabular views therein referred to :

Of the 765 steam-vessels on the waters of the interior, 164 run on the lakes, and 601 on the rivers.

Of the aggregate tonnage of these 765 steam-vessels of the interior, (viz : 204,725 tons,) 69,165$\frac{87}{95}$ tons, is upon the lakes, and 135,559$\frac{13}{95}$, on the rivers.

Of the 164 steam-vessels on the lakes, 105 are ordinary steamers, 52 are propellers, and 7 are ferry-boats.

Of the 601 steam-vessels on the rivers, 558 are ordinary steamers, and 43 are ferry-boats.

The average tonnage of all the steam-vessels on the lakes, (ferry-boats excepted,) is 437 tons.

The average tonnage of all the steam-vessels on the rivers, (ferry-boats excepted,) is 235$\frac{15}{95}$ tons,

The average tonnage of the ordinary steamers on the lakes is 503$\frac{85}{95}$ tons, and that of the propellers 302$\frac{18}{95}$ tons.

The average number of persons employed on the ordinary steamers of the lakes is 19$\frac{1}{2}$ to each ; and the number employed on the propellers is 15$\frac{1}{2}$ to each.

The average number of persons employed on the ordinary steamers of the rivers is 26 to each ; the boats of the Ohio basin averaging a fraction *under* 26, and those of the Mississippi valley averaging a fraction *over* 26.

The 7 steam ferry-boats enrolled on the lakes measure 555$\frac{84}{95}$ tons ; the 43 steam ferry-boats enrolled on the rivers measure 4,177$\frac{94}{95}$ tons.

Of the 558 ordinary steamers on the rivers, 317 are enrolled in the districts of the Ohio basin, and 241 in those of the Mississippi valley.

Of the 157 ordinary steamers and propellers on the lakes, 31 are enrolled on Lake Champlain, the St. Lawrence, and Lake Ontario ; 66 are enrolled on Lake Erie ; and 60 at Detroit and on the lakes above.

Of the 43 steam ferry-boats on the western rivers, 31 are in the Ohio basin, and 12 in the Mississippi valley.

A remarkable equality is found to exist, at the present time, in the distribution of the steam tonnage of the interior among the several lines of navigation heretofore specified.

The line of the St. Lawrence and the lakes has 69,165$\frac{87}{95}$ tons, of it ;

The line of the Mississippi valley has 67,957$\frac{34}{95}$ tons of it :

The line of the Ohio basin has 67,601$\frac{32}{95}$ tons of it.

The 17,607 persons employed on the steam-vessels of the interior, as officers, crews, &c., are distributed as follows :

| | |
|---|---|
| On the lakes and the St. Lawrence | 2,855 |
| On the Mississippi river and its tributaries | 6,414 |
| On the Ohio river and its tributaries | 8,338 |

The tabular views of vessels lost on the waters of the interior, (page 27,) shows a total loss of 118—76 on the rivers, and 42 on the lakes.

Of this whole number, 35 were lost by tempest, 31 by fire, 19 by collision, and 33 by snags. All the losses on the rivers were of the class of

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boats denominated "ordinary steamers," in this report. Nearly all the losses on the lakes were of sail-vessels, schooners and brigs.

The loss of lives, as shown by same tabular view, amounted to a total of 695 for the year—628 on the rivers, and 67 on the lakes. This statement is probably under the truth, except as to the Cincinnati district, which is thought to have more assigned to it in the table than its real proportion of the fatal calamities of the year. But this information is always difficult to obtain, and can hardly be had in an entirely reliable form without a more determined and longer continued effort than was possible in the present instance.

Soon after the close of the year embraced in the tables of this report, and within a very short period before its commencement, a number of severe calamities occurred upon the lakes, which would have raised very materially the figures denoting the loss of both life and property, had they been included. Among the enrolments of the Buffalo district, for example, occurred the following disasters during the spring of 1850, but before the commencement of the year to which the tabular views refer:

Steamer *Oregon*, damaged by fire to the amount of $20,000, which was covered by insurance on hull.

Steamer *Troy*, exploded; loss $4,000; no insurance; 9 lives lost.

Steamer *G. P. Griffith*, destroyed by fire; loss of property, $60,000; insurance, $27,500; loss of lives in the conflagration, 250.

Among the enrolments of the Chicago district was the steamer *Anthony Wayne*, which was destroyed by fire about two months before the commencement of the year ending June 30, 1851; estimated value, $28,000; insurance, $11,000; 65 lives lost in the conflagration.

The disasters reported in the tabular view of the losses of vessels are *total* losses. Those *accidents* on the rivers, which are known as "collapsing of flues," "bursting of steam-pipes," &c., and those on the lakes known as "stranding," "beaching," "striking on bars when entering harbors," "capsizing," &c., are neither of them included in the table of vessels lost. On the lakes, the casualties of the kinds here referred to are very numerous. A single example will suffice. Within the year which ended on the 30th June, 1851, the following occurred to sail-vessels belonging to the Chicago district:

30 vessels went ashore, or were beached.
5 struck on the bar going into harbor.
2 sunk, (but were raised.)
5 capsized.

Making 42 *accidents* for the Chicago district, of the descriptions which do not enter into the account of losses of vessels here reported. In many instances, however, the *insurance paid* for the damage done by these accidents and the classes of minor accidents referred to, on the rivers, is included in the tabular statement of that subject.

The several tabular views and alphabetical lists referred to in this division of the report, show a total number of steamboats destroyed on the Mississippi and Ohio rivers and their tributaries, since the introduction of steam navigation thereon, of 782; of which number 178 were burnt, 528 snagged, and 76 lost by other disasters.

In the tabular view on the 13th page of this report, the column of "average distances," it should be remarked, is irregular, incomplete, and of no special importance.

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## *Grand Result.*

The entire steam-marine of the United States, employed on the coast and in the interior, separate and combined, is shown in the following tabular view, with the aggregate tonnage thereof, the total number of persons engaged upon the same as officers, crew, &c., and the entire number of passengers, distinguishing between those conveyed upon ferry-boats and those conveyed upon steam-vessels of all other descriptions.

*United States steam-marine.*

| Description of vessels. | No. | Tonnage. | No. of officers, crew, &c. | Pressure. | | Passengers carried annually. |
|---|---|---|---|---|---|---|
| | | | | High. | Low. | |
| *Coast.* | | *Tons. 95ths.* | | | | |
| Ocean steamers | 96 | 91,475 60 | 4,548 | 3 | 93 | 190,993 |
| Ordinary steamers | 382 | 90,738 40 | 6,811 | 152 | 230 | 3,782,572 |
| Propellers | 67 | 12,245 73 | 542 | 50 | 17 | 58,705 |
| Steam ferry-boats | 80 | 18,041 13 | 869 | 10 | 70 | 29,315,576 |
| Total coast | 625 | 212,500 91 | 11,770 | 215 | 410 | 33,342,846 |
| *Interior.* | | | | | | |
| Ordinary steamers | 663 | 184,262 82 | 16,576 | 615 | 48 | 2,714,874 |
| Propellers | 52 | 15,729 12 | 817 | 50 | 2 | 44,440 |
| Steam ferry-boats | 50 | 4,733 63 | 214 | 50 | ..... | 3,102,531 |
| Total interior | 765 | 204,725 12 | 17,607 | 715 | 50 | 5,861,845 |

### RECAPITULATION.

| | No. of vessels. | Tonnage. |
|---|---|---|
| | | *Tons and 95ths.* |
| Steam-marine of the United States—Coast | 625 | 212,500 91 |
| Steam-marine of the United States—Interior | 765 | 204,725 12 |
| Total | 1,390 | 417,226 08 |

| | By ferry-boats. | By all other steam-vessels. |
|---|---|---|
| Passengers of the coast division | 29,315,576 | 4,027,270 |
| Passengers of the interior division | 3,102,531 | 2,759,314 |
| Total number | 32,418,107 | 6,786,584 |

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The strength of the steam-marine of the United States is thus shown to be comprised in *thirteen hundred and ninety vessels*, measuring *four hundred and seventeen thousand two hundred and twenty-six and $\frac{95}{95}$ tons*, and manned by *twenty-nine thousand three hundred and seventy-seven men*.

I have the honor to be, very respectfully, your obedient servant,

THO. CORWIN,
*Secretary of the Treasury.*

Hon. WILLIAM R. KING,
*President pro tem. of the Senate.*

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# TABULAR VIEWS

REFERRED TO IN THE

# FIRST DIVISION OF THE REPORT.

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## A 1.

*Tabular view of the steam-marine of the United States on the Atlantic coast, arranged by collection districts, from Passamaquoddy bay to Cape Sable, for the year ending June 30, 1851.*

| Kind of vessel, &c. | Number. | High pressure. | Low pressure. | Tonnage. | Crew. | Average number of passengers annually. | Average distance carried. | Aggregate miles traversed by boats. |
|---|---|---|---|---|---|---|---|---|
| *District of Eastport, Me.* | | | | *Tons and 95ths.* | | | *Miles.* | |
| Ocean steamer | 1 | ..... | 1 | 648 33 | 33 | 11,658 | 243 | 36,150 |
| Ordinary steamers | 3 | ..... | 3 | 536 89 | 27 | 12,491 | 36 | 43,098 |
| Propeller | 1 | ..... | 1 | 112 80 | 8 | ..... | ..... | 10,000 |
| Ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total steam-vessels | 5 | ..... | 5 | 1,298 12 | 68 | 24,149 | ..... | 79,548 |
| *District of Bangor, Me.* | | | | | | | | |
| Ocean steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ordinary steamers | 5 | 1 | 4 | 1,660 21 | 80 | 30,000 | 488 | 58,560 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total steam-vessels | 5 | 1 | 4 | 1,660 21 | 80 | 30,000 | 488 | 58,560 |
| *District of Bath, Me.* | | | | | | | | |
| Ocean steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ordinary steamers | 9 | 4 | 5 | 1,494 75 | 87 | 45,965 | 51 | 150,000 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ferry-boats | 2 | 2 | ..... | 177 71 | 6 | 110,000 | ½ | ..... |
| Total steam-vessels | 11 | 6 | 5 | 1,678 51 | 93 | 155,965 | ..... | 150,000 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *District of Portland, Me.* | | | | | | | | |
| Ocean steamers | 2 | ..... | 2 | 1,087 62 | 48 | 19,400 | 100 | 50,000 |
| Ordinary steamer | 1 | ..... | 1 | 210 71 | 12 | ..... | ..... | ..... |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ferry-boats | 2 | ..... | 2 | 282 40 | 12 | 108,000 | 1 | 6,240 |
| Total steam-vessels | 5 | ..... | 5 | 1,500 78 | 72 | 127,400 | ..... | 56,240 |
| *District of Nantucket, Mass.* | | | | | | | | |
| Ocean steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ordinary steamers | 2 | ..... | 2 | 479 22 | 27 | 20,000 | 50 | 31,500 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total steam-vessels | 2 | ..... | 2 | 479 22 | 27 | 20,000 | 50 | 31,500 |
| *District of Boston, Mass.* | | | | | | | | |
| Ocean steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ordinary steamers | 6 | 3 | 3 | 598 40 | 33 | 70,662 | 5 | 100,000 |
| Propellers | 2 | 1 | 1 | 423 17 | 13 | 2,000 | 12½ | 36,000 |
| Ferry-boats | 7 | ..... | 7 | 1,569 00 | 87 | 4,462,237 | †8,549 | 90,000 |
| Total steam-vessels | 15 | 4 | 11 | 2,587 57 | 33 | 4,534,899 | ..... | 226,000 |
| *District of Fall River, Mass.* | | | | | | | | |
| Ocean steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ordinary steamers | 6 | ..... | 6 | 4,769 31 | 212 | 149,874 | 142 | 160,000 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ferry-boat | 1 | ..... | 1 | 56 00 | 3 | 9,175 | ¼ | 7,000 |
| Total steam-vessels | 7 | ..... | 7 | 4,825 31 | 215 | 159,049 | ..... | 167,000 |

* *Two* small steamers are running on Moosehead lake, and *three* above Penobscot falls, not enrolled—making five in addition to the above. † Yards.



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| Kind of vessel, &c. | Number. | High pressure. | Low pressure. | Tonnage. | Crew. | Average number of passengers annually. | Average distance carried. | Aggregate miles traversed by boats. |
|---|---|---|---|---|---|---|---|---|
| *District of New Bedford, Mass.* | | | | *Tons and 95ths.* | | | *Miles.* | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | | | | | | | | |
| Propellers | | | | | | | | |
| Ferry-boat | 1 | | 1 | 67 81 | 3 | 10,000 | 1 | 3,600 |
| Total steam-vessels | 1 | | 1 | 67 81 | 3 | 10,000 | | 3,600 |
| *District of Barnstable, Mass.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | 1 | | 240 16 | 9 | 9,060 | 50 | 15,600 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | 1 | | 240 16 | 9 | 9,060 | 50 | 15,600 |
| *District of Bristol, R. I.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | | 1 | 124 00 | 6 | 30,710 | 18 | 8,112 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | | 1 | 124 00 | 6 | 30,710 | 18 | 8,112 |
| *District of Newport, R. I.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | | 1 | 255 67 | 10 | 35,000 | 22 | |



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|---|---|---|---|---|---|---|---|---|
| Propellers | | | | | | | | 18,100 |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | | 1 | 255 | 67 | 10 | 85,000 | 22 | 18,100 |
| *District of Providence, R. I.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | | 1 | 245 | 87 | 8 | 48,700 | 23 | 15,000 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steamv-essels | 1 | | 1 | 245 | 87 | 8 | 48,700 | 23 | 15,000 |
| *District of Stonington, Conn.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | | 1 | 67 | 38 | 5 | 12,600 | 20 | 14,500 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | | 1 | 67 | 38 | 5 | 12,600 | 20 | 14,500 |
| *District of New London, Conn.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 5 | 1 | 4 | 3,218 | 71 | 79 | 71,000 | 135 | 200,000 |
| Propellers | 4 | 2 | 2 | 732 | 6 | 40 | 2,088 | 135 | 120,000 |
| Ferry-boats | 1 | | 1 | 80 | 0 | 3 | 30,000 | ? | 3,000 |
| Total steam-vessels | 10 | 3 | 7 | 4,025 | 77 | 122 | 103,088 | | 323,000 |
| *District of Middletown, Conn.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 5 | 3 | 2 | 797 | 20 | 58 | 26,640 | 130 | 57,840 |
| Propellers | 8 | 8 | | 1,275 | 88 | 62 | 7,800 | 28 | 168,480 |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 13 | 11 | 2 | 2,073 | 18 | 120 | 34,440 | | 226,320 |



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## A 1—Continued.

| Kind of vessel, &c. | Number. | High pressure. | Low pressure. | Tonnage. | Crew. | Average number of passengers annually. | Average distance carried. | Aggregate miles traversed by boats. |
|---|---|---|---|---|---|---|---|---|
| *District of New York.* | | | | *Tons and 95ths.* | | | *Miles.* | |
| Ocean steamers | 25 | ..... | 25 | 45,048 0 | 2,038 | 64,950 | ..... | 842,880 |
| Ordinary steamers | 62 | 8 | 54 | 18,375 15 | 1,008 | 978,440 | 75 | 1,482,200 |
| Propellers | 5 | 2 | 3 | 1,051 0 | 26 | 4,560 | 180 | 40,010 |
| Ferry-boats | 88* | ..... | 88 | 12,688 25 | 201 | 24,009,550 | 1 | 672,397 |
| Barges (towed by steam) | 130† | ..... | ..... | ..... | ..... | 114,100 | ..... | ..... |
| Total steam-vessels | 130 | 10 | 120 | 77,165 40 | 3,268 | 25,166,600 | ..... | 2,987,487 |
| *District of New Haven, Conn.* | | | | | | | | |
| Ocean steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ordinary steamers | 1 | ..... | 1 | 584 51 | 17 | 45,000 | 80 | 24,960 |
| Propellers | 1 | ..... | 1 | 222 42 | 10 | ..... | 80 | 16,000 |
| Ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total steam-vessels | 2 | ..... | 2 | 806 93 | 27 | 45,000 | ..... | 40,960 |
| *District of Sag Harbor, N. Y.* | | | | | | | | |
| Ocean steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ordinary steamers | 1 | ..... | 1 | 128 1 | 6 | 11,764 | 12 | 7,200 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total steam-vessels | 1 | ..... | 1 | 128 1 | 6 | 11,764 | 12 | 7,200 |

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|---|---|---|---|---|---|---|---|---|
| *District of Newark, N. J.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 8 | | 8 | 1,005 01 | 25 | 25,000 | 15 | |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 8 | | 8 | 1,005 01 | 25 | 25,000 | 15 | |
| *District of Perth Amboy, N. J.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 8 | | 8 | 3,585 49 | 66 | 440,000 | 25 | 50,000 |
| Propellers | 9 | 3 | 6 | 1,855 40 | 72 | | | 50,000 |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 17 | 3 | 14 | 5,440 89 | 188 | 440,000 | 25 | 100,000 |
| *District of Burlington, N. J.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 6 | | 6 | 2,171 07 | 54 | 257,884 | | |
| Propellers | 5 | 5 | | 620 03 | 28 | | | |
| Ferry-boats | 1 | 1 | | 58 90 | 2 | 18,000 | | |
| Total steam-vessels | 12 | 6 | 6 | 2,850 05 | 84 | 275,384 | | |
| *District of Wilmington, Del.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 11 | 1 | 10 | 2,681 84 | 66 | 72,000 | 40 | 100,000 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 11 | 1 | 10 | 2,681 84 | 66 | 72,000 | 40 | 100,000 |

* The ferry boats enumerated above, are chiefly those running between New York city and Brooklyn, Williamsburg, Jersey City, Hoboken, &c. There are thirteen steam ferries in the district of New York.

† The barges enumerated above are all *towed* by steamboats, and constitute a branch of steam navigation almost peculiar to the Hudson river. They are from 200 to 400 tons, and make from one to three trips per week. Some of them are fitted up as passenger boats, having commodious cabins. Generally, however, they are freight boats, carrying a large share of the immense products of the interior to the Atlantic. In addition to these, many of the canal boats from the Erie and Champlain canals are towed to New York.





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## A 1—Continued.

| Kind of vessel, &c. | Number. | High pressure. | Low pressure. | Tonnage. | Crew. | Average number of passengers annually. | Average distance carried. | Aggregate miles traversed by boats. |
|---|---|---|---|---|---|---|---|---|
| *District of Philadelphia, Penn.* | | | | *Tons and 95ths.* | | | *Miles.* | |
| Ocean steamers | 6 | 1 | 5 | 2,696 00 | 183 | 4,368 | 2,439 | |
| Ordinary steamers | 18 | | 18 | 4,393 00 | 126 | 506,590 | 435 | |
| Propellers | 26 | 23 | 3 | 3,267 00 | 188 | 37,200 | 317 | |
| Ferry-boats | 8 | 1 | 2 | 55 00 | 10 | 30,000 | 1 | |
| Total steam-vessels | 58 | 25 | 28 | 10,411 00 | 457 | 578,178 | | |
| *District of Baltimore, Md.* | | | | | | | | |
| Ocean steamers | 2 | | 2 | 946 68 | 34 | | | |
| Ordinary steamers | 32 | 10 | 22 | 8,441 63 | 346 | 79,000 | 81¼ | |
| Propellers | | | | | | | | |
| Ferry-boats | 2 | 1 | 1 | 475 25 | 28 | 37,000 | 1½ | |
| Total steam-vessels | 36 | 11 | 25 | 9,863 56 | 408 | 116,000 | | |
| *District of Norfolk, Va.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 5 | | 5 | 741 29 | 28 | 86,500 | 50 | |
| Propellers | 3 | 3 | | 195 01 | 18 | | | |
| Ferry-boats | 3 | | 3 | 220 00 | 15 | 292,000 | ¾ | |
| Total steam-vessels | 11 | 3 | 8 | 1,156,30 | 56 | 828,000 | | |



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|---|---|---|---|---|---|---|---|---|
| *District of Plymouth, N. C.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | | 1 | 86 | 84 | 5 | | |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | | | 86 | 84 | 5 | | |
| *District of Washington, N. C.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 2 | 2 | | 99 | 7 | 10 | 1,768 | 50 / 25 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 2 | 2 | | 99 | 7 | 10 | 1,768 | 37½ |
| *District of Newbern, N. C.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 4 | 4 | | 167 | 2 | 20 | 525 | 80 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 4 | 4 | | 167 | 2 | 20 | 525 | 80 |
| *District of St. Mark's, Florida.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | 1 | | 45 | 0 | 5 | | |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |



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## A 1—Continued.

| Kind of vessels, &c. | Number. | High pressure. | Low pressure. | Tonnage. | Crews. | Average number of passengers annually. | Average distance carried. | Aggregate miles traversed by boats. |
|---|---|---|---|---|---|---|---|---|
| *District of Jacksonville, Florida.* | | | | *Tons and 95ths.* | | | *Miles.* | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | | 1 | 55 74 | 8 | 600 | 100 | |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | | 1 | 55 74 | 8 | 600 | 100 | |
| *District of Richmond, Va.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 6 | | 6 | 1,858 68 | 64 | 80,000 | 200 | 119,820 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 6 | | 6 | 1,858 68 | 64 | 80,000 | 200 | 119,820 |
| *District of Petersburg, Va.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 1 | tow-boat | 1 | 79 60 | 5 | | | |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | | 1 | 79 60 | 5 | | | |
| *District of Wilmington, N. C.* | | | | | | | | |
| Ocean steamers | *5 | | 5 | 1,650 0 | 100 | 21,908 | 170 | 122,400 |
| Ordinary steamers | 10 | 10 | | 1,364 23 | 60 | 260 | 120 | 60,000 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 15 | 10 | 5 | 8,014 23 | 160 | 22,168 | 145 | 182,400 |
| *District of Alexandria, Va.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 2 | | 2 | 268 89 | 62 | 87,600 | 7 | 16,800 |
| Propellers | | | | | | | | |
| Ferry-boat | 1 | 1 | | 45 54 | 3 | 18,000 | 1 | 6,000 |
| Total steam-vessels | 3 | 1 | 2 | 314 43 | 65 | 105,600 | | 22,800 |
| *District of Charleston, S. C.* | | | | | | | | |
| Ocean steamers | 2 | | 2 | 1,901 67 | 78 | 4,280 | 1,288 | 66,970 |
| Ordinary steamers | 8 | 4 | 4 | 1,989 49 | 106 | 4,258 | 700 | 280,000 |
| Propeller | 1 | | 1 | 206 48 | 8 | 62 | 15 | 10,000 |
| Ferry-boats | 4 | | 4 | 531 25 | 16 | 13,840 | 7 | |
| Total steam-vessels | 15 | 4 | 11 | 4,628 89 | 208 | 22,485 | | 397,290 |
| *District of Savannah, Ga.* | | | | | | | | |
| Ocean steamers | 3 | 1 | 2 | 1,233 26 | 54 | 5,200 | 120 | 18,000 |
| Ordinary steamers | 23 | 10 | 13 | 4,400 49 | 138 | 15,240 | 489 | 144,000 |
| Propeller | 1 | 1 | | 127 26 | 4 | No passengers | Tug-boat | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 27 | 12 | 15 | 5,751 16 | 196 | 19,440 | | 162,000 |
| *District of Mobile, Ala.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 78 | 78 | | 18,146 00 | 2,790 | 118,500 | 200 | 790,600 |
| Propellers | | | | | | | | |
| Ferry-boats | 2 | 2 | | 422 00 | 35 | 19,900 | 2 | 32,770 |
| Total steam-vessels | 80 | 80 | | 18,568 00 | 2,825 | 138,400 | | 823,370 |

* These ply between Wilmington and Charleston, S. C., and make one link in the "great southern route" from Washington to New Orleans.



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## A 1—Continued.

| Kind of vessel, &c. | Number. | High pressure. | Low pressure. | Tonnage. | Crews. | Average number of passengers annually. | Average distance carried. | Aggregate miles traversed by boats. |
|---|---|---|---|---|---|---|---|---|
| *District of Galveston, Texas.* | | | | *Tons and 95ths.* | | | *Miles.* | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | *10 | 10 | | 1,588 59 | 200 | 14,400 | 200 | 169,580 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 10 | 10 | | 1,588 59 | 200 | 14,400 | 200 | 169,580 |
| *District of New Orleans, La.* | | | | | | | | |
| Ocean steamers | 11 | 2 | 9 | 6,610 00 | 365 | 20,000 | 500 | 286,000 |
| Ordinary steamers | 113 | 107 | | 27,126 00 | 3,852 | 419,000 | 720 | 4,119,000 |
| Propellers | 2 | 2 | | 600 00 | 30 | | | |
| Ferry-boats | 2 | 2 | | 400 00 | 10 | 15,000 | 1 | 10,000 |
| Barges towed | (†) | | | | | | | |
| Total steam-vessels | 122 | 113 | 9 | 34,736 00 | 4,257 | 454,000 | | |
| *District of Brazos de St. Jago, Texas.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 5 | 5 | | 657 00 | 75 | 800 | 320 | 115,200 |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 5 | 5 | | 657 00 | 75 | 800 | 320 | 115,200 |
| *District of Pensacola, Fla.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamer | 1 | | 1 | 98 00 | 8 | | | |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 1 | | 1 | 98 00 | 8 | | | |
| *District of Camden, N. J.* | | | | | | | | |
| Ocean steamers | | | | | | | | |
| Ordinary steamers | 10 | | 10 | 2,000 00 | 114 | 100,000 | 80 | 200,000 |
| Propellers | | | | | | | | |
| Ferry-boats | 14 | | 14 | 1,885 33 | 56 | 350,000 | 1 | 94,800 |
| Total steam-vessels | 24 | | 24 | 3,985 33 | 170 | 450,000 | | 294,800 |
| *District of San Francisco, Cal.* | | | | | | | | |
| Ocean steamers | 37 | | 37 | 29,714 00 | 1,665 | ‡34,709 | | |
| Ordinary steamers | 13 | 3 | 10 | 5,272 00 | 284 | ‡44,500 | | |
| Propellers | | | | | | | | |
| Ferry-boats | | | | | | | | |
| Total steam-vessels | 50 | 3 | 47 | 34,989 00 | 1,949 | 78,209 | | |

* Three of these boats run 120 miles each; three others 90 miles each; and four 350 miles distance—making the average of 200 miles.

† Barges towed by steam have been recently used on the Mississippi, but the number cannot be now ascertained. Of the ocean steamers of this district, four have been destroyed, but others have since replaced them. For the mode of ascertaining the number of passengers, see the body of the report.

‡ The way and river passengers are estimated. The number set down to ocean steamers is believed to be nearly correct.



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## A 2.

*Sectional view of the steam-marine of the United States on the Atlantic coast, from Passamaquoddy Bay to Cape Sable.*

| Districts. | Ocean steamers. | Ordinary steamers. | Propellers. | Ferry-boats. | Tonnage. | High pressure. | Low pressure. | Crews. | Number of passengers annually. | Average distance carried. | Aggregate miles traversed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *Tons & 95ths.* | | | | | *Miles.* | |
| Eastport | 1 | 3 | 1 | ..... | 1,298 12 | ..... | 5 | 68 | 24,149 | ..... | 79,800 |
| Bangor | ..... | 10 | ..... | ..... | 1,660 21 | 1 | 4 | 80 | 80,000 | 488 | 58,560 |
| Bath | ..... | 9 | ..... | 2 | 1,672 51 | 6 | 5 | 93 | 155,965 | 51 | 135,000 |
| Portland | 2 | 1 | ..... | 2 | 1,500 78 | ..... | 5 | 72 | 127,400 | 100 | 54,500 |
| Nantucket | ..... | 2 | ..... | ..... | 479 22 | ..... | 2 | 27 | 20,000 | 50 | 31,500 |
| Boston | ..... | 6 | 2 | 7 | 2,588 00 | 4 | 11 | 88 | 4,584,899 | ..... | 226,000 |
| Fall River | ..... | 6 | ..... | 1 | 4,825 35 | ..... | 7 | 215 | 159,049 | 142 | 167,000 |
| New Bedford | ..... | ..... | ..... | 1 | 57 81 | ..... | 1 | 8 | 10,000 | 1 | 3,600 |
| Barnstable | ..... | 1 | ..... | ..... | 240 16 | 1 | ..... | 9 | 9,060 | 50 | 15,600 |
| Bristol | ..... | 1 | ..... | ..... | 124 60 | ..... | 1 | 6 | 80,710 | 18 | 8,112 |
| Newport | ..... | 1 | ..... | ..... | 255 67 | ..... | 1 | 10 | 85,000 | 22 | 13,100 |
| Providence | ..... | 1 | ..... | ..... | 245 87 | ..... | 1 | 8 | 48,700 | 23 | 15,000 |
| Stonington | ..... | 1 | ..... | ..... | 67 38 | ..... | 1 | 5 | 12,600 | 20 | 14,500 |
| New London | ..... | 5 | 4 | 1 | 4,025 77 | 3 | 7 | 122 | 108,088 | 135 | 320,000 |
| Middletown | ..... | 5 | 8 | ..... | 2,073 18 | 11 | 2 | 120 | 34,440 | { 120 / 28 } | 226,320 |
| New Haven | ..... | 1 | 1 | ..... | 806 93 | ..... | 2 | 27 | 45,000 | 80 | 40,000 |
| Sag Harbor | ..... | 1 | ..... | ..... | 128 01 | ..... | 1 | 6 | 11,754 | 12 | 7,200 |
| New York | 25 | 62 | 4 | 88 | 77,105 88 | 8 | 119 | 3,247 | 25,166,600 | ..... | 2,987,487 |
| Perth Amboy | ..... | 8 | 9 | ..... | 5,440 89 | 3 | 14 | 188 | 440,000 | 25 | 100,000 |
| Newark | ..... | 3 | ..... | ..... | 1,005 01 | ..... | 3 | 25 | 25,000 | 15 | 27,000 |
| Burlington | ..... | 6 | 5 | 1 | 2,850 05 | 6 | 6 | 84 | 275,884 | ..... | 90,600 |
| Philadelphia | 6 | 18 | 26 | 3 | 10,411 00 | 25 | 28 | 457 | 578,158 | ..... | 1,442,000 |
| Wilmington, Del | ..... | 11 | ..... | ..... | 2,681 34 | 1 | 10 | 66 | 72,000 | 40 | 100,000 |



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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Baltimore | 2 | 82 | ..... | 2 | 9,868 56 | 11 | 25 | 408 | 116,000 | ..... | 450,000 |
| Alexandria | ..... | 2 | ..... | 1 | 314 48 | 1 | 2 | 65 | 105,600 | ..... | 22,800 |
| Richmond | ..... | 6 | ..... | | 1,353 68 | ..... | 6 | 64 | 30,000 | 200 | 119,820 |
| Petersburg | ..... | 1 | ..... | ..... | 79 60 | ..... | 1 | 5 | ..... | ..... | ..... |
| Norfolk | ..... | 5 | 3 | 3 | 1,156 30 | 3 | 8 | 56 | 328,500 | ..... | 184,000 |
| Plymouth, N. C. | ..... | 1 | ..... | ..... | 86 84 | ..... | 1 | 5 | ..... | ..... | ..... |
| Washington, N. C. | ..... | 2 | ..... | ..... | 99 07 | 2 | ..... | 10 | 1,763 | 37½ | ..... |
| Newbern | ..... | 4 | ..... | ..... | 167 02 | 4 | ..... | 20 | 525 | 80 | 40,000 |
| Wilmington, N. C. | 5 | 10 | ..... | ..... | 3,014 23 | 10 | 5 | 160 | 22,168 | 145 | 182,400 |
| Charleston, S. C. | 2 | 8 | 1 | 4 | 4,628 89 | 4 | 11 | 208 | 22,435 | ..... | 397,290 |
| Savannah | 3 | 23 | 1 | ..... | 5,751 16 | 12 | 15 | 196 | 19,440 | ..... | 162,000 |
| Jacksonville, Fla. | ..... | 1 | ..... | ..... | 55 74 | ..... | 1 | 8 | 600 | 100 | 8,600 |
| Georgetown, D. C. | ..... | 7 | ..... | ..... | 2,276 65 | ..... | 7 | 107 | 189,000 | 461 | 100,000 |
| Camden, N. J. | ..... | 10 | ..... | 14 | 3,885 33 | ..... | 24 | 170 | 450 000 | ..... | 294,800 |
| Total of 87 districts | 46 | 274 | 65 | 80 | 154,270 32 | 116 | 342 | 6,348 | 33,114,782 | ..... | 8,118,989 |



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## B 1.

*Sectional view of the steam-marine of the United States on the Gulf of Mexico, from Cape Sable to the Rio Grande.*

| Districts. | Ocean steamers. | Ordinary steamers. | Propellers. | Ferry boats. | Tonnage. | High pressure. | Low pressure. | Crews. | Passengers annually. | Average distance carried. | Aggregate miles traversed. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | *Tons and 95ths.* | | | | | *Miles.* | |
| St. Mark's, Fa. | ..... | 1 | ..... | ..... | 45 00 | 1 | ..... | 5 | ..... | ..... | ..... |
| Pensacola | ..... | 1 | ..... | ..... | 98 00 | ..... | 1 | 8 | ..... | ..... | ..... |
| Mobile | ..... | 78 | ..... | ..... | 13,146 00 | 78 | ..... | 2,790 | 113,5.0 | 200 | 790,600 |
| New Orleans | 12 | * | 2 | ..... | 7,410 00 | 4 | 9 | 895 | 20,000 | 500 | 286,000 |
| Galveston | ..... | 10 | ..... | ..... | 1,588 59 | 10 | ..... | 200 | 14,400 | 200 | 169,580 |
| Brazos St. Jago | ..... | 5 | ..... | ..... | 657 00 | 5 | ..... | 75 | 800 | 820 | 115 200 |
| Total | 12 | 95 | 2 | ..... | 28,244 59 | 98 | 10 | 3,473 | 148,700 | ..... | 1,361,380 |

* Only those steam-vessels, at New Orleans, which ply on the Gulf of Mexico, are retained in this sectional view, or in the general aggregate. The class of "ordinary steamers" and "ferry-boats" for that district, will be found in the sectional view of the Mississippi river, and in the aggregate for the western waters and lakes. The *whole* number of steam-vessels for that port will be found in the table for that specific district.

Of the large number of steam-vessels enumerated in the Mobile district, many of them ply on the rivers of Alabama, or perhaps the Mississippi; but no discrimination could be made, and that district belongs to the Gulf of Mexico.



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*Sectional view of the steam-marine of the United States in the Pacific ocean.*

| Lines of steamers. | Ocean steamers. | Ordinary steamers. | Tonnage. | High pressure. | Low pressure. | Crews. | Passengers annually. | Average distance carried. | Aggregate miles traversed. |
|---|---|---|---|---|---|---|---|---|---|
| From San Francisco to Panama | 17 | ..... | 18,522 | ..... | 17 | 731 | 20,808 | ..... | ..... |
| From San Francisco to Oregon | 3 | ..... | 947 | ..... | 3 | 66 | 2,000 | ..... | ..... |
| From San Francisco to Trinity Bay | 4 | ..... | 1,485 | ..... | 4 | 80 | 3,000 | ..... | ..... |
| From San Francisco to San Diego | 1 | ..... | 1,200 | ..... | 1 | 70 | 500 | ..... | ..... |
| From San Francisco to Sacramento | ..... | 7 | 2,722 | ..... | 7 | 154 | 30,000 | ..... | ..... |
| From San Francisco to Stockton | ..... | 5 | 2,200 | 2 | 3 | 110 | 10,000 | ..... | ..... |
| From San Francisco to Sonora | ..... | 1 | 300 | 1 | ..... | 20 | 500 | ..... | ..... |
| Miscellaneous | 10 | ..... | 8,610 | ..... | 10 | 530 | 10,000 | ..... | ..... |
| From San Francisco to San Juan del Sud | 2 | ..... | 4,000 | ..... | 2 | 188 | 2,401 | ..... | ..... |
| Total | 37 | 13 | 34,986 | 3 | 47 | 1,949 | 79,209 | ..... | ..... |

NOTE.—In the above table are not included the "Golden Gate" of the Pacific mail line; the "North America" of the Nicaragua line; two steamers running to Stockton, which are supposed to be enrolled in the "western waters," previous to being sent to the Pacific. Nothing is included in the table, which is not believed to have been in the Pacific prior to July 1, 1851. The rule by which passengers are estimated, will be found in the general report.



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D 4.

*General aggregate of the steam-marine of the United States on the Atlantic, Gulf of Mexico, and Pacific coasts, for the year beginning July* 1, 1850, *and ending July* 1, 1851.

| Kind of steamer. | Number. | Tonnage. | High pressure. | Low pressure. | Crews. | Passengers, annually. | Average distance carried. | Aggregate miles traversed. |
|---|---|---|---|---|---|---|---|---|
| | | *Tons & 95ths.* | | | | | | |
| Ocean steamers.... | 96 | 91,475 60 | 3 | 93 | 4,548 | 190,998 | ..... | ..... |
| Ordinary steamers.. | 382 | 90,738 40 | 152 | 230 | 6,311 | 3,782,572 | ..... | ..... |
| Propellers..... | 67 | 12,245 73 | 50 | 17 | 542 | 53,705 | ..... | ..... |
| Ferry-boats..... | 80 | 18,041 13 | 10 | 70 | 369 | 29,315,576 | ..... | ..... |
| Total..... | 625 | 212,500 91 | 213 | 410 | 11,770 | 33,342,846 | ..... | ..... |

NOTE.—The following are *general averages* deduced from the table:

| | | |
|---|---|---|
| 1. | Average tonnage of ocean steamers ..... | 953 tons. |
| 2. | Average tonnage of ordinary steamers ..... | 235 |
| 3. | Average tonnage of propellers ..... | 180 |
| 4. | Average tonnage of ferry-boats ..... | 225 |
| 5. | Average number of passengers carried by ocean steamers..... | 2,000 persons. |
| 6. | Average number of passengers carried by ordinary steamers..... | 9,906 |
| 7. | Average number of passengers carried by propellers..... | 806 |
| 8. | Average number of passengers carried by ferry-boats..... | 366,440 |
| 9. | Average of crews of ocean steamers..... | 47 |
| 10. | Average of crews of ordinary steamers..... | 16 |
| 11. | Average of crews of propellers..... | 8 |
| 12. | Average o crews of ferry-boats ..... | 5 |

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E 1.

*Tabular view of the shipwrecks in the United States on the Atlantic, Gulf of Mexico, and Pacific coasts, (arranged by collection districts,) for the year ending June 30, 1851.*

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Eastport, Me.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | 6 | 6 | | | | | 18 |
| Schooners | 14 | 14 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 20 | 20 | | | | | |
| *District of Machias, Me.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 6 | 5 | | 1 | | | 6 |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 6 | 5 | | 1 | | | |
| *District of Ellsworth, Me.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 5 | 5 | | | | | 10 |
| Sloops | | | | | | | |
| Steamers | | | | | | | |

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## E 1—Continued.

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Bangor, Me.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | 6 |
| Schooners | 2 | 2 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 3 | 3 | | | | | 6 |
| *District of Belfast, Me.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | 3 | 3 | | | | | |
| Schooners | 7 | 6 | | 1 | | | 1 |
| Sloops | 8 | 3 | | | | | |
| Steamers | | | | | | | |
| Total vessels | 18 | 12 | | 1 | | | 1 |
| *District of Castine, Me.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooners | 9 | 9 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 10 | 10 | | | | | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *District of Waldoborough, Me.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | 3 | 3 | | | | | |
| Schooners | 22 | 14 | 5 | 8 | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 25 | 17 | 5 | 8 | | | |
| *District of Bath, Me.* | | | | | | | |
| Ship | 1 | 1 | | | | | |
| Brig | 1 | 1 | | | | | 27 |
| Schooners | 4 | 2 | 1 | 1 | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 6 | 4 | 1 | 1 | | | 27 |
| *District of Portland, Me.* | | | | | | | |
| Ships | 3 | 2 | | 1 | | | |
| Brigs | 6 | 6 | | | | | 16 |
| Schooners | 14 | 14 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 23 | 22 | | 1 | | | 16 |
| *District of Kennebunk, Me.* | | | | | | | |
| Ships | 2 | 2 | | | | | 38 |
| Brigs | | | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |



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## E 1—Continued.

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Portsmouth, N. H.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 2 | 2 | | | | | 10 |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 2 | 2 | | | | | 10 |
| *District of Marblehead, Mass.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 3 | 3 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 3 | 3 | | | | | |
| *District of Gloucester, Mass.* | | | | | | | |
| Ship | 1 | 1 | | | | | |
| Brigs | | | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *District of Salem, Mass.* | | | | | | | |
| Ship | 1 | 1 | | | | | |
| Brigs | 2 | 2 | | | | | 8 |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 3 | 3 | | | | | 8 |
| *District of Fall-River, Mass.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| *District of Boston, Mass.* | | | | | | | |
| Ships | 13 | 9 | 3 | 1 | | | 6 |
| Brigs | 5 | 5 | | | | | |
| Schooners | 29 | 27 | | 2 | | | 1 |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 47 | 41 | 3 | 3 | | | 7 |
| *District of Plymouth, Mass.* | | | | | | | |
| Ship | 1 | 1 | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooners | 2 | 2 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |



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## E 1—Continued.

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Nantucket, Mass.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooner | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| *District of New Bedford, Mass.* | | | | | | | |
| Ships | 4 | 4 | | | | | |
| Brigs | | | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 4 | 4 | | | | | |
| *District of Newport, R. I.* | | | | | | | |
| Ship | 1 | 1 | | | | | 2 |
| Brigs | | | | | | | |
| Schooners | 3 | 2 | | 1 | | | 3 |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 4 | 3 | | 1 | | | 5 |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *District of Providence, R. I.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| *District of Stonington, Conn.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | 1 | 1 | | | | | |
| Schooners | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 2 | 2 | | | | | |
| *District of New Haven, Conn.* | | | | | | | |
| Ship | 1 | 1 | | | | | 10 |
| Brigs | | | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | 10 |
| *District of Newburyport, Mass.* | | | | | | | |
| Ships | 1 | | 1 | | | | |
| Brigs | 1 | 1 | | | | | |
| Schooners | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |

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## E 1—Continued.

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Bristol and Warren, R. I.* | | | | | | | |
| Ships | 1 | 1 | | | | | |
| Brigs | 1 | 1 | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 2 | 2 | | | | | |
| *District of New London, Conn.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| *District of Sag Harbor, N. Y.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***District of New York, N. Y.*** | | | | | | | |
| Ships | 10 | 8 | 1 | 1 | | | 20 |
| Brigs | 8 | 8 | | | | | |
| Schooners | 18 | 16 | 1 | | 1 | | 47 |
| Sloops | 4 | 4 | | | | | |
| Steamers | 2 | 2 | | | | | |
| Total vessels | 42 | 38 | 2 | 1 | 1 | | 67 |
| ***District of Perth Amboy, N. J.*** | | | | | | | |
| Ships | | | | | | | 4 |
| Brigs | | | | | | | |
| Schooners | 1 | 1 | | | | | |
| Sloops | 1 | 1 | | | | | |
| Steamers | | | | | | | |
| Total vessels | 2 | 2 | | | | | 4 |
| ***District of Great Egg Harbor, N. J.*** | | | | | | | |
| Ships | | | | | | | |
| Brigs | 1 | 1 | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| ***District of Wilmington, Del.*** | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 2 | 1 | 1 | | | | |
| Sloops | | | | | | | |
| Steamers | 2 | | | 1 | 1 | | |



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## E 1—Continued.

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Philadelphia, Pa.* | | | | | | | 8 |
| Ships | 3 | 3 | | | | | |
| Brigs | 2 | 2 | | | | | |
| Schooners | 20 | 20 | | | | | |
| Sloops | | | | | | | |
| Steamer | 1 | | 1 | | | | |
| Total vessels | 26 | 25 | 1 | | | | 8 |
| *District of Baltimore, Md.* | | | | | | | |
| Ships | 2 | 2 | | | | | 11 |
| Brigs | 1 | 3 | | | 1 | | 16 |
| Schooners | 6 | 4 | | | 2 | | 19 |
| Sloops | | | | | | | |
| Steamers | *2 | | | | 2 | | |
| Total vessels | 14 | 9 | | | 5 | | 46 |
| *District of Oxford, Md.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooner | 1 | | | 1 | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | | | 1 | | | |
| *District of Norfolk, Va.* | | | | | | | |
| Ships | | | | | | | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Brig | 1 | | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | | | | | | |
| *District of Richmond, Va.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 2 | 2 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 2 | 2 | | | | | |
| *District of Vienna, Md.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schoomer | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| *District of Brunswick, Ga.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | 2 |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |

* Two propellers, supposed to belong to Baltimore, were cut and sunk by ice.



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## E 1—Continued.

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Jacksonville, Fa.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | | | | 1 | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | | | | 1 | | |
| *District of Camden, N. C.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| *District of Washington, N. C.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | 2 | 2 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 2 | 2 | | | | | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *District of Newbern, N. C.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooners | 2 | 2 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |
| Total vessels | 3 | 3 | | | | | |
| *District of Georgetown, S. C.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | | | | | | | |
| Sloop | 1 | 1 | | | | | |
| Steamers | | | | | | | |
| Total vessels | 1 | 1 | | | | | |
| *District of Charleston, S. C.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooner | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | 1 | | | | 1 | | |
| Total vessels | 3 | 2 | | | 1 | | |
| *District of Savannah, Ga.* | | | | | | | |
| Ships | | | | | | | |
| Brig | 1 | 1 | | | | | |
| Schooner | 1 | 1 | | | | | |
| Sloops | | | | | | | |
| Steamers | | | | | | | |



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## E 1—Continued.

| Kind of vessels, &c. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| *District of Mobile, Ala.* | | | | | | | |
| Ships | | | | | | | |
| Brigs | | | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | 4 | | | 1 | 2 | 1 | |
| Total vessels | 4 | | | 1 | 2 | 1 | |
| *District of New Orleans, La.** | | | | | | | |
| Ships | 2 | 2 | | | | | |
| Brigs | 3 | 3 | | | | | |
| Schooners | 6 | 6 | | | | | |
| Sloops | | | | | | | |
| Steamers | 6 | 4 | | | 1 | 1 | 29 |
| Total vessels | 17 | 15 | | | 1 | 1 | 29 |
| *District of San Francisco, Cal.†* | | | | | | | |
| Ships | 5 | 4 | | | 1 | | |
| Brigs | | | | | | | |
| Schooners | | | | | | | |
| Sloops | | | | | | | |
| Steamers | 2 | 2 | | | | | |
| Total vessels | 7 | 6 | | | 1 | | |

* In the shipwrecks and losses at New Orleans are not included any of the ordinary steamers employed on the rivers. The losses of that class of vessels will be found in the sectional tables of the western rivers, to which they properly belong. The six steamers above enumerated belong to the gulf trade; three of them being ocean steamers.

† These vessels were all lost on the coasts of California and Oregon. It is not possible to determine whether they were all owned in California; but they are not included in any other district, and are not known to belong to any other.



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E. 2.

*General aggregate of shipwrecks in the United States, on the Atlantic, Gulf of Mexico and Pacific coasts, for the year beginning July* 1, 1850, *and ending July* 1, 1851.

| Kind of vessels. | Number. | Tempest. | Burnt. | Collision. | Snagged or sunk. | Explosion. | Lives lost. |
|---|---|---|---|---|---|---|---|
| Ships | 50 | 43 | 5 | 3 | 1 | ..... | 99 |
| Brigs | 59 | 57 | ..... | ..... | 2 | ..... | 43 |
| Schooners | 190 | 161 | 8 | 10 | 8 | ..... | 147 |
| Sloops | 9 | 9 | ..... | ..... | ..... | ..... | ..... |
| Steamers | 20 | 8 | 1 | 2 | 7 | 2 | 29 |
| Total | 328 | 278 | 14 | 15 | 15 | 2 | 318 |

NOTE.—It is quite possible that these vessels may not in all cases be precisely correct in classification; but there are only a few whose class was not known, and as they belonged to the coast of New England, they were generally assigned to the class of schooners—that being much the most numerous class employed in that part of the coast trade.

The number of lives lost doubtless exceeds the number in the table; for the obvious reason, that many men are lost overboard at sea of whom no account is ever given, and that in many cases of total shipwrecks it is not known how many were on board.

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# TABULAR VIEWS, LISTS, &c.,

REFERRED TO

IN THE SECOND PART OF THE REPORT.

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# F.

## STEAM-MARINE OF THE UNITED STATES.

*Statement of the number of steam-vessels of all descriptions enrolled, registered, or licensed in the interior collection districts of the United States, for the year ending June 30, 1851, with the aggregate tonnage of the same, the manner in which the motive power is severally applied to them, the total number of persons employed upon them as officers, crew, &c., and the number of passengers conveyed by them to and from the principal port of each district.*

| Description of vessels, &c. | Number. | Tonnage. | Number of officers, crew, &c. | High pressure. | Low pressure. | Number of passengers carried. | Distance. |
|---|---|---|---|---|---|---|---|
| *District of Vermont—Burlington, Vt.* | | *Tons and 95ths.* | | | | | *Miles.* |
| Ordinary steamers | 10 | 3,128 74 | 131 | 3 | 7 | 155,000 | 55 |
| Propeller | 1 | 111 26 | 8 | 1 | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 11 | 3,240 05 | 139 | 4 | 7 | 155,000 | 55 |
| *District of Champlain—Plattsburg, N. Y.* | | | | | | | |
| Ordinary steamers | 3 | 335 00 | 22 | 2 | 1 | 8,500 | 40 |
| Propellers | 3 | 586 00 | 26 | 2 | 1 | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 6 | 921 00 | 48 | 4 | 2 | 8,500 | 40 |
| *District of Oswegatchie—Ogdensburg, N. Y.* | | | | | | | |
| Ordinary steamers | 3 | 1,985 00 | 82 | ..... | 3 | 60,562 | 125 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boat | 1 | 87 00 | 4 | 1 | ..... | 104,620 | 1½ |
| Total | 4 | 2,022 00 | 86 | 1 | 3 | 165,182 | 126½ |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *District of Cape Vincent, N. Y.** | | | | | | | |
| Ordinary steamers | | | | | | | |
| Propellers | | | | | | | |
| Steam ferry-boats | | | | | | | |
| Total | | | | | | | |
| *District of Sackett's Harbor, N. Y.* | | | | | | | |
| Ordinary steamers | | | | | | | |
| Propellers | | | | | | | |
| Steam ferry-boat | 1 | 66 00 | 4 | 1 | | 1,240 | 11 |
| Total | 1 | 66 00 | 4 | 1 | | 1,240 | 11 |
| *District of Oswego, N. Y.* | | | | | | | |
| Ordinary steamers | 5 | 2,618 23 | 90 | 1 | 4 | 21,500 | 235 |
| Propellers | 4 | 919 42 | 48 | 4 | | 1,380 | 530 |
| Steam ferry-boats | | | | | | | |
| Total | 9 | 3,537 65 | 138 | 5 | 4 | 22,880 | 765 |
| *District of Genesee—Rochester, N. Y.* | | | | | | | |
| Ordinary steamer | 1 | 66 00 | 7 | | 1 | 30 | 150 |
| Propeller | 1 | 429 00 | 15 | | 1 | 180 | 400 |
| Steam ferry-boats | | | | | | | |
| Total | 2 | 495 00 | 22 | | 2 | 210 | 550 |
| *District of Niagara—Lewiston, N. Y.* | | | | | | | |
| Ordinary steamers | | | | | | 22,987 | |
| Propellers | | | | | | | |
| Steam ferry-boat | 1 | 100 00 | 7 | 1 | | 2,400 | 2 |
| Total | 1 | 100 00 | 7 | 1 | | 25,387 | 2 |

* No vessels enrolled in this district during the year.



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## F—Continued.

| Description of vessels, &c. | Number. | Tonnage. | Number of officers, crew, &c. | High pressure. | Low pressure. | Number of passengers carried. | Distance. |
|---|---|---|---|---|---|---|---|
| *District of Buffalo creek—Buffalo, N. Y.* | | *Tons and 95ths.* | | | | | *Miles.* |
| Ordinary steamers | 19 | 19,063 79 | 468 | 12 | 7 | 157,257 | 561 |
| Propellers | 22 | 6,862 47 | 406 | 22 | ..... | 14,300 | 566 |
| Steam ferry-boats | 1 | 63 34 | 3 | 1 | ..... | 26,280 | 1¼ |
| Total | 42 | 25,989 55 | 877 | 35 | 7 | 197,837 | 1,128¼ |
| *District of Presq'isle—Erie, Pa.* | | | | | | | |
| Ordinary steamers | 6 | 5,350 57 | 150 | 2 | 4 | 59,900 | 490 |
| Propellers | 1 | 840 04 | 20 | 1 | ..... | 730 | 490 |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 7 | 5,690 61 | 170 | 3 | 4 | 60,630 | 980 |
| *District of Cuyahoga—Cleveland, O.* | | | | | | | |
| Ordinary steamers | 6 | 3,826 35 | 121 | 6 | ..... | ..... | ..... |
| Propellers | 7 | 2,591 34 | 96 | 7 | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 13 | 6,417 69 | 217 | 13 | ..... | ..... | ..... |
| *District of Sandusky, O.* | | | | | | | |
| Ordinary steamers | 1 | 73 35 | 7 | 1 | ..... | 2,190 | 52 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 1 | 73 35 | 7 | 1 | ..... | 2,190 | 52 |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *District of Miami—Toledo, O.* | | | | | | | |
| Ordinary steamers | 4 | 1,745 59 | 148 | 4 | ..... | 81,842 | 157 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 4 | 1,745 59 | 148 | 4 | ..... | 81,842 | 157 |
| *District of Detroit, Mich.* | | | | | | | |
| Ordinary steamers | 37 | 13,946 31 | 708 | 16 | 21 | 369,430 | 162½ |
| Propellers | 7 | 2,238 24 | 80 | 7 | ..... | ..... | ..... |
| Steam ferry-boats | 3 | 289 30 | 10 | 3 | ..... | 352,000 | 1 |
| Total | 47 | 16,468 85 | 798 | 26 | 21 | 721,430 | 168½ |
| *District of Michilimackinac, Mich.* | | | | | | | |
| Ordinary steamers | 8 | 619 27 | 71 | 8 | ..... | 17,212 | 51 |
| Propellers | 4 | 1,127 50 | 88 | 4 | ..... | 24,000 | 350 |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 12 | 1,746 77 | 159 | 12 | ..... | 41,212 | 401 |
| *District of Milwaukie,* Wis.* | | | | | | | |
| Ordinary steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| *District of Chicago, Ill.* | | | | | | | |
| Ordinary steamers | 12 | 122 66 | 10 | 2 | ..... | 81,900 | 8 |
| Propellers | 2 | 528 80 | 30 | 2 | ..... | 3,900 | 1,461 |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 4 | 651 51 | 40 | 4 | ..... | 85,800 | 1,469 |



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## F—Continued.

| Description of vessels, &c. | Number. | Tonnage. | Number of officers, crew, &c. | High pressure. | Low pressure. | Number of passengers carried. | Distance. |
|---|---|---|---|---|---|---|---|
| *District of St. Louis, Mo.* | | *Tons and 95ths.* | | | | | *Miles.* |
| Ordinary steamers | 126 | 30,948 73 | 2,305 | 126 | | 318,713 | 891 |
| Propellers | | | | 5 | | | |
| Steam ferry-boats | 5 | 885 19 | 35 | | | 49,080 | 1 |
| Total | 131 | 31,833 92 | 2,340 | 131 | | 367,793 | 892 |
| *District of Memphis, Tenn.* | | | | | | | |
| Ordinary steamers | | | | | | | |
| Propellers | | | | | | | |
| Steam ferry-boats | 3 | 450 00 | 15 | 3 | | 34,000 | |
| Total | 3 | 450 00 | 15 | 3 | | 34,000 | |
| *District of Vicksburg, Miss.* | | | | | | | |
| Ordinary steamers | 4 | 687 87 | 91 | 4 | | 10,800 | |
| Propellers | | | | | | | |
| Steam ferry-boats | 2 | 250 00 | 10 | 2 | | 36,000 | |
| Total | 6 | 937 87 | 101 | 6 | | 46,800 | |
| *District of Natchez, Miss.* | | | | | | | |
| Ordinary steamers | | | | | | | |
| Propellers | | | | | | | |
| Steam ferry-boats | | | | | | | |
| Total | | | | | | | |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| *District of New Orleans, La.* | | | | | | | |
| Ordinary steamers | 111 | 34,336 00 | 3,948 | 111 | ..... | 419,000 | ..... |
| *Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | 2 | 400 00 | 10 | 2 | ..... | 15,000 | 1 |
| Total | 113 | 34,736 00 | 3,958 | 113 | ..... | 434,000 | 1 |
| *District of Nashville, Tenn.* | | | | | | | |
| Ordinary steamers | 18 | 3,578 13 | 397 | 18 | ..... | 24,340 | 750 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | 18 | 3,578 13 | 397 | 18 | ..... | 24,340 | 750 |
| *District of Evansville, Indiana.†* | | | | | | | |
| Ordinary steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| *District of New Albany, Indiana.†* | | | | | | | |
| Ordinary steamers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Total | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| *District of Louisville, Ky.* | | | | | | | |
| Ordinary steamers | 56 | 14,529 45 | 1,888 | 56 | ..... | 120,000 | 1,000 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | 5 | 651 21 | 25 | 5 | ..... | 150,000 | 1 |
| Total | 61 | 15,180 66 | 1,913 | 61 | ..... | 270,000 | 1,001 |

* There are two propellers registered in this district, which run on the Gulf, and are classed elsewhere with ocean steamers. † New districts.





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F—Continued.

| Description of vessels, &c. | Number. | Tonnage. | Number of officers, crew, &c. | High pressure. | Low pressure. | Number of passengers carried. | Distance. |
|---|---|---|---|---|---|---|---|
| *District of Cincinnati, Ohio.** | | *Tons and 95ths.* | | | | | *Miles.* |
| Ordinary steamers | 104 | 24,109 7 | 2,759 | 104 | ..... | 270,796 | ..... |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | 7 | 600 0 | 30 | 7 | ..... | 2,190,000 | ..... |
| Total | 111 | 24,709 7 | 2,789 | 111 | ..... | 2,460,796 | ..... |
| *District of Wheeling, Va.* | | | | | | | |
| Ordinary steamers | 38 | 6,843 13 | 634 | 38 | ..... | 139,170 | 220 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | 8 | 847 54 | 17 | 8 | ..... | 104,000 | ..... |
| Total | 46 | 7,190 67 | 651 | 46 | ..... | 243,170 | 220 |
| *District of Pittsburg, Penn.* | | | | | | | |
| Ordinary steamers | 101 | 16,848 68 | 2,544 | 101 | ..... | 428,745 | 280 |
| Propellers | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Steam ferry-boats | 11 | 594 0 | 44 | 11 | ..... | 37,911 | ..... |
| Total | 112 | 16,942 68 | 2,588 | 112 | ..... | 466,656 | 280 |

* There is also one ocean steamer owned and registered in this district (low pressure) of 276 tons 80 95ths, having 25 officers and crew.



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G.

## STEAMBOAT DISASTERS.

*Boats sunk, burnt, or otherwise injured, on the western waters, during the year 1849.*

[Below we give a list of steamboat accidents which occurred during the past year, as taken from the files of newspapers. This may not include all; but a majority of the cases will be found correctly and duly chronicled. The estimated loss of each is also taken from the same source, and it may be slightly defective as to real value; but, in the aggregate, the figures will not be found to differ widely from a true statement.]

### BOATS TOTALLY DESTROYED.

| Name. | Date. | How and where destroyed. | Estimated value. |
|---|---|---|---|
| Anne Elizabeth | Jan. 27 | Sunk on falls of Ohio | $35,000 |
| Andrew Fulton | Feb. 22 | Sunk at Platin Rock | 28,000 |
| Alph. de Lamartine | April — | Burnt at Bath, Illinois river | 40,000 |
| Alice | May 17 | Burnt at St. Louis | 18,000 |
| American Eagle | May 17 | Burnt at St. Louis | 11,000 |
| Acadia | May 17 | Burnt at St. Louis | 10,000 |
| Alex. Hamilton | May 17 | Burnt at St. Louis | 15,000 |
| Albert | Spring | Sunk by collision on the Ohio river | 8,000 |
| Aaron Hart | Oct. 10 | Burnt at New Orleans | 30,000 |
| Algoma | July 29 | Burnt at St. Louis | 18,000 |
| Amelia | Dec. 8 | Sunk on the Missouri river | 12,000 |
| Boreas No. 3 | May 17 | Burnt at St. Louis | 15,000 |
| Belle Isle | May 17 | Burnt at St. Louis | 10,000 |
| Bolivar | May 14 | Sunk on the Cumberland river | 6,000 |
| Car of Commerce | Jan. — | Sunk on falls of Ohio | 25,000 |
| Convoy | Feb. 25 | Burnt near Vicksburg | 60,000 |
| Champion | Summer. | Blew up at New Orleans | 5,000 |
| Caroline | Summer. | Sunk by collision at Wellsville | 10,000 |
| Courier | Spring | Sunk on the lower Mississippi river | 12,000 |
| Cumberland Valley | Summer. | Sunk on the Missouri river | 10,000 |
| De Kalb | Feb. 12 | Sunk on the Santee river | 8,000 |
| Dahcota | Spring | Sunk on the Missouri river | 30,000 |
| Diligence | Summer. | Sunk at Fort Coffee | 4,000 |
| Del Norte | Summer. | Sunk on the Rio Grande | 8,000 |
| Declaration | Fall | Sunk at Pass Saluda | 10,000 |
| Dubuque | July 29 | Burnt at St. Louis | 8,000 |
| Empire | Jan. 15 | Sunk on falls of Ohio | 40,000 |
| Ellen | Spring | Sunk by collision on the Ohio river | 5,000 |
| Edward Bates | May 17 | Burnt at St. Louis | 20,000 |
| Eudora | May 17 | Burnt at St. Louis | 21,000 |
| Eliza Stewart | May 17 | Burnt at St. Louis | 13,000 |
| Emily | May 31 | Blew up at Apalachicola | 10,000 |
| Falcon | Oct. 12 | Burnt at New Orleans | 45,000 |
| Fulton | Spring | Sunk at Red Bayou | 15,000 |
| Frolic | May 17 | Burnt at St. Louis | 3,000 |
| General Brooke | May 17 | Burnt at St. Louis | 3,000 |
| Germantown | Aug. 25 | Burnt at Raleigh, Kentucky | 18,000 |
| General Jesup | Dec. — | Sunk at Hat island | 30,000 |
| General Pike | Summer. | Burnt on the lower Mississippi river | 30,000 |
| Hackaway | Jan. 1 | Sunk at Donaldsonville | 25,000 |
| Highlander | May 1 | Burnt at St. Louis | 14,000 |
| Ivanhoe | Nov. 9 | Burnt at Cincinnati | 14,000 |
| Illinois | Nov. 12 | Burnt at New Orleans | 35,000 |
| Kit Carson | May 17 | Burnt at St. Louis | 14,000 |
| Louisiana | Nov. 15 | Blew up at New Orleans | 40,000 |

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G—Continued.

| Name. | Date. | How and where destreyed. | Estimated value. |
|---|---|---|---|
| Milwaukie | Jan. 1 | Sunk by ice at Naples, Illinois river | $12,000 |
| Mary Ann | Jan. 17 | Sunk by collision at Pittsburg | 8,000 |
| Mustang | Summer. | Burnt at Duncan's Point | 12,000 |
| Matilda Jane | Fall .... | Sunk near New Orleans | 15,000 |
| Montauk | May 17 | Burnt at St. Louis | 36,000 |
| Mamaluke | May 17 | Burnt at St. Louis | 30,000 |
| Mandan | May 17 | Burnt at St. Louis | 12,000 |
| Marshal Ney | Oct. 10 | Burnt at New Orleans | 35,000 |
| Mary | July 29 | Burnt at St. Louis | 30,000 |
| Martha | May 17 | Burnt at St. Louis | 44,000 |
| Northern Light | Jan. 18 | Burnt at Pittsburg | 10,000 |
| Oella No. 2 | Dec. 18 | Sunk at Anderson's ferry | 6,000 |
| Prairie State | May 17 | Burnt at St. Louis | 26,000 |
| Phœnix | July 29 | Burnt at St. Louis | 16,000 |
| Roscoe | Summer. | Sunk on the Ohio river | 20,000 |
| Richland | Jan. 17 | Burnt on the Pedee river | 12,000 |
| Red Wing | May 17 | Burnt at St. Louis | 21,000 |
| Revolution | May 16 | Burnt at Peru, Illinois river | 12,000 |
| Sarah | May 17 | Burnt at St. Louis | 70,000 |
| St. Peters | May 15 | Burnt at St. Louis | 12,000 |
| Samuel Walker | Summer. | Burnt at Memphis | 20,000 |
| North America | Nov. 10 | Burnt at New Orleans | 10,000 |
| San Francisco | July 29 | Burnt at St. Louis | 28,000 |
| Sallie Anderson | Sept. 24 | Burnt on the Arkansas river | 10,000 |
| Saranak | Fall .... | Sunk near Baton Rouge | 25,000 |
| S. W. Williams | April 9 | Lost in a gale at the mouth of the Brazos | 16,400 |
| Transport | Fall .... | Sunk on the lower Mississippi river | 18,000 |
| Texan | Fall .... | Burnt on Red river | 25,000 |
| Taglioni | May 17 | Burnt at St. Louis | 20,000 |
| Timour | May 27 | Burnt at St. Louis | 28,000 |
| Tennessee | Dec. 2 | Sunk near Cincinnati | 15,000 |
| Thomas Jefferson | Dec. — | Sunk near Baton Rouge | 30,000 |
| Viola | Dec. 27 | Sunk by collision near Donaldsonville | 9,000 |
| Virginia | Fall .... | Blew up on the Ohio river | 17,000 |
| White Cloud | May 17 | Burnt at St. Louis | 3,000 |
| William Armstrong | Nov. — | Sunk near Little Rock | 10,000 |
| Western | Summer. | Sunk on the Wabash river | 6,000 |
| Wave | Summer. | Sunk on False river | 5,000 |
| Total number 88; | estimated | loss | 1,585,400 |

The above estimate of losses includes cargoes on board at the time of sinking.

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H.

*Accidents to steamboats which were afterwards raised and repaired.*

| Name. | Remarks. |
|---|---|
| Anthony W. Vanleer.... | Collapsed a flue at Plaquemine by careening, February 21: one negro fireman killed, and four others badly scalded. |
| Amaranth..... | Came in collision with the Dr. Franklin No. 2 on the upper Mississippi. The A. was struck on her starboard bow and sunk: afterwards raised and repaired. |
| Allen Glover..... | Run into by the Forest Monarch, near Mobile, January 10: seriously damaged, but saved from sinking. |
| Avalanche..... | Badly injured by coming in contact with the Alvarado, on the Illinois river, near Beardstown: saved from sinking by means of pumps and bulk-headings. |
| Anthony Wayne..... | Sunk whilst ascending the lower rapids, on the upper Mississippi, in December: afterwards raised and taken to Rock island for repairs. |
| Avalanche..... | Sunk on the Chain, in December, twelve miles above the city of St. Louis, where she now lies high and dry. |
| Buena Vista..... | Took fire at Kaskaskia landing; cargo greatly damaged by water: boat saved from burning by the exertions of her officers and crew. |
| Belle Creole..... | Exploded one or more boilers on her trip from Mobile to New Orleans: several persons badly scalded. |
| Confidence..... | Sunk at New Albany bar, in the Ohio, September 28. Raised and sunk again a few miles below Cincinnati on the 10th November. Again raised and taken to Louisville for repairs. |
| Daniel Boone..... | Sunk on the Wabash river: afterwards raised and repaired. |
| Embassy..... | Exploded boilers at Evansville, Ind., in June, killing and badly scalding more than thirty persons: since repaired, and now running. |
| Falcon..... | Sunk by ice at the mouth of the Missouri; since raised. |
| Fawn..... | Badly injured by coming in collision with the Patrick Henry in Yazoo river: engineer killed, and several others badly injured. |
| Governor Bent..... | Exploded boilers at island 75, lower Mississippi, April 26: one deck-hand killed. |
| Governor Briggs..... | Struck a wreck and sunk, in backing out from the wharf at St. Louis, July 12: since raised and repaired. |
| Highland Mary No. 2... | Struck a snag, on the upper Mississippi, near Bailey's Landing, and sunk in eighteen feet water: since raised and repaired; cargo valuable, and greatly damaged. |
| J. T. Doswell..... | Sunk by coming in contact with the General Jesup, on the lower Mississippi, near Tunica, September 29: since raised and repaired. |
| Lake of the Woods..... | Collapsed a flue on Grand river, killing the first engineer and five other persons: repaired. |
| Laura..... | Exploded her boilers, on Ouachita river, November 8: several persons badly scalded. |
| Mustang..... | Sunk, on Arkansas river, near Fort Smith, in January: since raised and repaired. |
| Mohawk..... | Struck a snag, on the lower Mississippi, near the mouth of the Arkansas, which knocked a hole in her hull, causing a large amount of freight and a considerable number of cattle to be thrown overboard; went on the docks at New Orleans; afterwards run on a bar near Vicksburg: since got off and taken to Louisville for repairs. |
| Magnet..... | Collapsed connexion pipe and flue, at St. Louis, August 8: since repaired. |
| Pike No. 9..... | Met with an accident, near Louisville, in February, by which the boat was considerably injured, and three persons killed. |
| Santa Fe..... | Collapsed a flue, at Fort Coffee, January 14: one person killed. |

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H—Continued.

| Name. | Remarks. |
|---|---|
| San Francisco..... | Exploded a boiler, at St. Louis, May 30, killing and scalding several persons: afterwards burnt at the same place on the 29th July. |
| St. Paul..... | Sunk, at Hat island, November 18: raised and taken to Vide Poche for repairs, and now running; valuable cargo badly damaged and partially lost. |
| Talleyrand. ..... | Lost a cargo of 1,100 bales of cotton by parting hog-chains, near Egg Point, on the lower Mississippi. |
| Warrior..... | Collapsed a flue, near College Point, on the lower Mississippi, killing one engineer and four or five others. |

It will be seen that the total loss of boats and cargoes is estimated at $1,585,400, not including the numerous other accidents—such as sinking, collapsing of boilers, flues, damages to boats, cargoes, &c.: and we think a fair estimate of every loss connected with western steamboat navigation, if included, would swell the amount to the enormous sum of $2,000,000 or more; and included into this, accidents of flat, keel, and various other species of water-craft, we might safely set down the sum total at $2,500,000.

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# STATEMENTS

OF

# LOSSES CAUSED TO STEAM-VESSELS

EMPLOYED ON THE

# WESTERN RIVERS OF THE UNITED STATES

PRIOR TO THE YEAR 1849,

*By striking snags and other obstructions, by fire, and by collisions, alphabetically arranged; and the value and amounts of losses, together with an estimated per-centage of the value of property destroyed thereon, including some vessels on the Gulf of Mexico: prepared by Davis Embree, of St. Louis, Missouri, December,* 1851.

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# I.

## *Alphabetical list of steamboats sunk by snags and other obstructions on the western waters prior to the year* 1849.

[ The amounts in the column under the head of "Original cost" marked with an asterisk (*) are the *supposed* cost. ]

| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Alexandria | New Orleans | 1819 | 60 | 1823 | 4 | $5,640 | $3,948 | $1,692 |
| Arkansas | ....do | 1820 | 51 | Unkn'wn | ..... | *4,794 | 2,397 | 2,397 |
| America | Pittsburg | 1826 | 240 | 1827 | 1 | 22,540 | 5,414 | 17,126 |
| Aurora | Steubenville | 1825 | 150 | Unkn'wn | ..... | *14,100 | 7,050 | 7,050 |
| Amazon | Cincinnati | 1826 | 300 | 1831 | 5 | 28,200 | 21,714 | 6,486 |
| Antelope | Pittsburg | 1831 | 90 | 1831 | New | 8,460 | ..... | 8,460 |
| Arkansaw | Cincinnati | 1832 | 115 | 1837 | 5 | 10,810 | 8,323 | 2,487 |
| Argo | Jeffersonville | 1833 | 80 | 1837 | 4 | 7,520 | 5,160 | 2,360 |
| Andrew Jackson, No. 2 | Steubenville | 1833 | 120 | Unkn'wn | ..... | *11,280 | 5,640 | 5,640 |
| Alert | Pittsburg | 1835 | 105 | 1839 | 4 | 9,870 | 6,909 | 2,961 |
| Artist | Brownsville | 1834 | 108 | 1836 | 2 | 10,150 | 4,872 | 5,278 |
| Anna Calhoun | Wheeling | 1835 | 138 | Unkn'wn | ..... | *12,972 | 6,486 | 6,486 |
| A. M. Phillips | ....do | 1837 | 215 | 1841 | 4 | 20,210 | 14,147 | 6,063 |
| Alex. Porter | Louisville | 1839 | 156 | 1841 | 2 | 14,664 | 7,038 | 7,626 |
| Amazon | Wheeling | 1839 | 231 | 1843 | 4 | 21,714 | 15,199 | 6,515 |
| Arrow | Louisville | 1839 | 185 | 1839 | New | 17,790 | ..... | 17,790 |
| Argo, No. 2 | Madison | 1839 | 138 | 1841 | 2 | 12,520 | 6,009 | 6,511 |
| Agnes, No. 2 | Pittsburg | 1840 | 80 | 1841 | 1 | 7,520 | 1,804 | 5,716 |
| Albert Gallatin | Brownsville | 1839 | 95 | Unkn'wn | ..... | *8,980 | 4,465 | 4,465 |
| Aid | Louisville | 1835 | 100 | 1837 | 2 | 9,400 | 4,512 | 4,888 |
| Ajax | Cincinnati | 1836 | 127 | 1841 | 5 | 11,938 | 9,192 | 2,746 |
| Alabamian | ....do | 1836 | 175 | 1841 | 5 | 16,450 | 11,515 | 4,935 |
| Arkansas | ....do | 1836 | 186 | 1838 | 2 | 17,484 | 8,392 | 9,092 |
| Astoria | ....do | 1837 | 150 | 1839 | 2 | 14,100 | 6,768 | 7,332 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ashley | ....do | 1838 | 140 | 1838 | New | 18,160 | ..... | 18,160 |
| Amaranth | Pittsburg | 1841 | 218 | 1842 | 1 | 20,492 | 4,917 | 15,575 |
| Alice Gray | Louisville | 1841 | 267 | 1846 | 5 | 25,098 | 19,325 | 5,773 |
| Arkansas, No. 2 | Cincinnati | 1841 | 289 | 1843 | 2 | 22,466 | 10,783 | 11,683 |
| Alabama, No. 3 | ....do | 1841 | 162 | 1846 | 5 | 15,228 | 11,725 | 3,503 |
| Atlas, No. 3 | Pittsburg | 1844 | 150 | 1847 | 3 | 11,100 | 8,460 | 2,640 |
| Aid, No. 2 | Cincinnati | 1843 | 173 | Unkn'wn | ..... | *16,450 | 8,225 | 8,225 |
| Argo, No. 3 | Jeffersonville | 1845 | 41 | 1848 | 3 | 8,854 | 2,812 | 1,542 |
| Alabama, No. 4 | Pittsburg | 1845 | 250 | 1847 | 2 | 23,500 | 11,280 | 12,220 |
| Belle Creole | Cincinnati | 1828 | 122 | 1829 | 6 | 11,468 | 9,393 | 2,075 |
| Bolivar | Grave Creek | 1831 | 46 | 1834 | 3 | 4,824 | 2,590 | 1,784 |
| Bonitia | Cincinnati | 1832 | 140 | 1835 | 3 | 18,160 | 7,896 | 5,264 |
| Bonnets of Blue | Cumberland river | 1832 | 186 | Unkn'wn | ..... | *17,484 | 8,742 | 8,742 |
| Black Hawk, No. 2 | Cincinnati | 1832 | 160 | 1838 | 6 | 15,040 | 12,332 | 2,708 |
| Black Hawk, No. 3 | ....do | 1832 | 150 | 1838 | 6 | 14,100 | 11,562 | 2,538 |
| Brilliant | ....do | 1837 | 274 | 1841 | 4 | 25,756 | 18,029 | 7,727 |
| Bridgewater | Maysville | 1837 | 160 | 1839 | 2 | 15,040 | 7,219 | 7,821 |
| Brazil | Cincinnati | 1838 | 194 | 1841 | 3 | 18,236 | 10,941 | 7,295 |
| Bedford | ....do | 1838 | av. 162 | 1840 | 2 | 15,228 | 7,309 | 7,919 |
| Belle Zane | Zanesville | 1844 | 120 | 1845 | 1 | 11,280 | 2,707 | 8,573 |
| Batesville | Cincinnati | 1844 | 178 | 1848 | 4 | 16,732 | 11,712 | 5,020 |
| Big Hatchie | Pittsburg | 1844 | 209 | 1847 | 3 | 19,646 | 11,787 | 7,859 |
| Billow | Louisville | 1845 | 206 | 1846 | 1 | 19,364 | 4,647 | 14,717 |
| Brighton | Cincinnati | 1836 | 86 | 1836 | New | 8,084 | ..... | 8,084 |
| Bowling-green | ....do | 1840 | 144 | 1842 | 2 | 13,536 | 6,497 | 7,039 |
| Bee | Pittsburg | 1836 | 105 | 1839 | 3 | 9,870 | 5,922 | 3,948 |
| Banesville | ....do | 1836 | 120 | 1837 | 1 | 11,280 | 2,707 | 8,573 |
| Baltimore | Marietta | 1836 | 111 | 1836 | New | 10,434 | ..... | 10,434 |
| Boston, No. 2 | Pittsburg | 1839 | 128 | 1842 | 3 | 12,032 | 7,219 | 4,813 |
| Breakwater | ....do | 1840 | 150 | Unkn'wn | ..... | *14,100 | 7,050 | 7,050 |
| Bristol | Brownsville | 1841 | 145 | 1843 | 2 | 13,630 | 6,588 | 7,042 |
| Belmont | Louisville | 1841 | 115 | 1843 | 2 | 10,810 | 5,188 | 5,622 |
| Brunnett | Pittsburg | 1842 | 207 | 1847 | 5 | 19,458 | 14,982 | 4,476 |
| Belle of Arkansas | Louisville | 1842 | 224 | 1846 | 2 | 21,056 | 14,739 | 6,317 |
| Bois D'Arc | ....do | 1843 | 171 | Unkn'wn | ..... | *16,074 | 8,037 | 8,037 |
| Belle of Clarksville | Cumberland river | 1843 | 300 | do | ..... | *18,200 | 9,100 | 9,100 |
| Chickasaw | Pittsburg | 1832 | 100 | 1834 | 2 | 9,400 | 4,512 | 4,888 |
| Compromise | Louisville | 1832 | 126 | 1837 | 5 | 11,844 | 9,725 | 2,119 |
| Citizen | Richmond | 1833 | 98 | Unkn'wn | ..... | *9,212 | 4,606 | 4,606 |
| Consort | Brownsville | 1832 | 180 | 1832 | New | 12,220 | ..... | 12,220 |



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## I—Continued.

| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Courtland | Cincinnati | 1826 | 200 | 1833 | 7 | $18,800 | $15,980 | $2,820 |
| Chian | Elizabethtown | 1834 | 100 | 1836 | 2 | 9,400 | 4,512 | 4,888 |
| Comet | Cincinnati | 1817 | 154 | 1823 | 6 | 14,476 | 11,870 | 2,606 |
| Cincinnati | do | 1818 | 157 | 1823 | 5 | 14,758 | 11,363 | 3,395 |
| Cotton Plant | Unknown | ..... | 125 | Unkn'wn | ..... | *11,750 | 5,875 | 5,875 |
| Columbus | Pittsburg | 1826 | 220 | do | ..... | *20,680 | 10,340 | 10,340 |
| Columbia | Cincinnati | 1825 | 200 | 1833 | 8 | 18,800 | 16,544 | 2,256 |
| Crusader | Fredericksburg | 1826 | 170 | 1830 | 4 | 15,980 | 11,186 | 4,794 |
| Criterion | New Albany | 1828 | 200 | 1834 | 6 | 18,800 | 15,416 | 3,384 |
| Cumberland | Pittsburg | 1828 | 100 | 1831 | 3 | 9,400 | 5,640 | 3,760 |
| Citizen | do | 1829 | 120 | Unkn'wn | ..... | *11,280 | 5,640 | 5,640 |
| Chieftain | New Albany | 1830 | 120 | 1835 | 5 | 11,286 | 8,685 | 2,595 |
| Convoy | Cincinnati | 1830 | 315 | 1837 | 7 | 29,610 | 25,168 | 4,442 |
| Charleston | Big Sandy | 1830 | 80 | 1834 | 4 | 7,520 | 5,264 | 2,256 |
| Conveyance | Cincinnati | 1831 | 90 | 1834 | 3 | 8,460 | 5,076 | 3,384 |
| Companion | Ripley | 1831 | 100 | 1835 | 4 | 9,400 | 6,580 | 2,820 |
| Chatahoochee | Cincinnati | 1832 | 100 | 1837 | 5 | 9,400 | 7,238 | 2,162 |
| Caroline | Pittsburg | 1828 | 90 | 1834 | 6 | 8,460 | 6,987 | 1,523 |
| Champlain | Augusta | 1832 | 100 | 1834 | 2 | 9,400 | 4,512 | 4,888 |
| Chester | Pittsburg | 1832 | av. 162 | 1836 | 4 | 15,228 | 10,659 | 4,569 |
| Casket | Manchester | 1837 | 90 | 1839 | 2 | 8,460 | 4,060 | 4,400 |
| Candor | Salsbury | 1839 | 114 | 1839 | New | 10,716 | ..... | 10,716 |
| Camden | Pittsburg | 1835 | 108 | 1839 | 4 | 10,152 | 7,106 | 3,046 |
| Cinderilla | Cincinnati | 1837 | 125 | 1841 | 4 | 11,750 | 8,225 | 3,525 |
| Czar | Pittsburg | 1838 | 184 | 1838 | New | 17,296 | ..... | 17,296 |
| Corvette | Cincinnati | 1839 | 195 | 1842 | 3 | 18,330 | 10,998 | 7,332 |
| Corinthian | Pittsburg | 1837 | 296 | 1840 | 3 | 27,824 | 16,694 | 11,130 |
| Corsican | do | 1839 | 224 | 1839 | New | 21,056 | ..... | 21,056 |



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|---|---|---|---|---|---|---|---|---|
| Chieftain | Cincinnati | 1840 | 322 | 1844 | 4 | 32,200 | 22,540 | 9,660 |
| Chief Magistrate | Pomeroy | 1839 | 149 | 1841 | 2 | 14,006 | 6,722 | 7,284 |
| Clinton, No. 3 | Jeffersonville | 1835 | 120 | 1838 | 3 | 11,280 | 6,768 | 4,512 |
| Cloaterville | Brush Creek | 1835 | 170 | 1839 | 4 | 15,980 | 3,835 | 12,145 |
| Crusader | Gallipolis | 1835 | 130 | 1837 | 2 | 12,220 | 5,865 | 6,355 |
| Cahawba | Cincinnati | 1836 | 120 | 1839 | 3 | 11,280 | 6,768 | 4,512 |
| Constellation | Pittsburg | 1836 | 322 | 1838 | 2 | 29,268 | 14,027 | 15,241 |
| Chillicothe | ....do | 1837 | 250 | 1838 | 1 | 28,500 | 5,640 | 17,860 |
| Compte | Jeffersonville | 1838 | 260 | 1840 | 2 | 24,440 | 11,731 | 12,709 |
| Caddo | Shusetown | 1839 | 194 | 1842 | 3 | 18,236 | 10,941 | 7,295 |
| Canebreak | Cincinnati | 1840 | 175 | 1844 | 4 | 16,450 | 11,515 | 4,935 |
| Caroline, No. 3 | New Albany | 1841 | 170 | 1841 | New | 15,980 | ..... | 15,980 |
| Carrier | Cincinnati | 1841 | 182 | Unkn'wn | ..... | *12,408 | 6,204 | 6,204 |
| Cleopatra, No. 2 | ....do | 1841 | 75 | 1842 | 1 | 7,050 | 1,692 | 5,358 |
| Crescent City | Louisville | 1841 | 300 | Unkn'wn | ..... | *28,200 | 14,100 | 14,100 |
| Caledonia, No. 3 | Ripley | 1842 | 388 | 1847 | 5 | 31,772 | 24,464 | 7,308 |
| Caspian, No. 2 | Cincinnati | 1842 | 318 | 1845 | 3 | 29,892 | 17,935 | 11,957 |
| Charlotte | St. Louis | 1842 | 250 | 1844 | 2 | 23,500 | 11,280 | 12,220 |
| Clermont, No. 2 | New Albany | 1843 | 111 | 1848 | 5 | 10,434 | 8,034 | 2,400 |
| Champion, No. 3 | Shusetown | 1843 | 148 | 1847 | 4 | 13,912 | 9,738 | 4,174 |
| Champion, No. 4 | Cincinnati | 1843 | 319 | 1847 | 4 | 29,986 | 20,990 | 8,996 |
| Columbian | Wellsburg | 1843 | 150 | 1845 | 2 | 14,100 | 6,768 | 7,332 |
| Consul | Pittsburg | 1844 | 127 | 1848 | 4 | 11,938 | 8,357 | 3,581 |
| China | Smithland | 1844 | 81 | 1846 | 2 | 7,614 | 3,656 | 3,958 |
| C. Conner | Louisville | 1845 | 144 | 1848 | 3 | 13,536 | 8,121 | 5,415 |
| Cutter | Cincinnati | 1843 | 148 | 1847 | 4 | 13,912 | 9,738 | 4,174 |
| Decatur | Brownsville | 1826 | 118 | Unkn'wn | ..... | *10,622 | 5,311 | 5,311 |
| Diana | Brush Creek | 1828 | 100 | 1833 | 5 | 9,400 | 7,288 | 2,162 |
| Delaware | Pittsburg | 1828 | 100 | 1832 | 4 | 9,400 | 6,580 | 2,820 |
| Dolphin | Aurora | 1826 | 90 | Unkn'wn | ..... | *8,940 | 4,470 | 4,470 |
| Don Juan | Louisville | 1831 | 100 | 1834 | 3 | 9,400 | 5,640 | 3,760 |
| Daniel O'Connell | New Albany | 1833 | 200 | 1838 | 5 | 18,800 | 14,470 | 4,330 |
| Daniel Boone | ....do | 1826 | 264 | 1832 | 6 | 24,810 | 20,249 | 4,561 |
| Diana, No. 2 | Jeffersonville | 1834 | 125 | 1836 | 2 | 11,750 | 5,640 | 6,110 |
| Du Buque | Pittsburg | 1835 | 75 | 1837 | 2 | 7,050 | 3,384 | 3,666 |
| Dart | ....do | 1835 | 125 | 1838 | 3 | 11,750 | 7,050 | 4,700 |
| Daisy | ....do | 1833 | 75 | 1840 | 7 | 7,050 | 3,384 | 3,666 |
| Douglass | New Albany | 1841 | 275 | Unkn'wn | ..... | *25,859 | 12,925 | 12,925 |
| Diligence | Wheeling | 1845 | 125 | 1845 | New | 11,750 | ..... | 11,750 |
| Doctor Watson | Cumberland river | 1845 | 145 | 1845 | 1 | 13,630 | 8,271 | 10,359 |



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## I—Continued.

| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Danube | Cincinnati | 1838 | 330 | 1839 | 1 | $31,020 | $7,444 | $23,576 |
| Eagle | ....do | 1818 | 118 | Unkn'wn | ..... | *11,092 | 5,546 | 5,546 |
| Eclipse | Pittsburg | 1828 | 120 | do | ..... | *11,280 | 5,640 | 5,640 |
| Express | ....do | 1827 | 105 | 1830 | 3 | 9,870 | 5,922 | 3,948 |
| Essex | ....do | 1827 | 135 | 1829 | 2 | 12,690 | 6,091 | 6,599 |
| Emigrant | Cincinnati | 1829 | 76 | 1832 | 3 | 7,144 | 4,286 | 2,858 |
| Enterprise | Pittsburg | 1830 | 150 | 1834 | 4 | 14,100 | 9,870 | 4,230 |
| Eagle | ....do | 1830 | 40 | 1833 | 3 | 8,760 | 2,256 | 1,504 |
| Ellen | Jeffersonville | 1834 | 90 | 1836 | 2 | 8,460 | 2,030 | 6,430 |
| Elk | Brush Creek | 1836 | 100 | 1839 | 3 | 9,400 | 5,640 | 3,760 |
| Elba | Pittsburg | 1839 | 161 | 1840 | 1 | 15,134 | 3,632 | 11,502 |
| Exact | Brunningville | 1839 | 50 | 1841 | 2 | 4,700 | 2,256 | 2,444 |
| Emerald, No. 2 | Pittsburg | 1836 | 123 | 1837 | 1 | 11,562 | 2,774 | 8,788 |
| Emblem | Cincinnati | 1836 | 115 | 1839 | 3 | 10,810 | 6,486 | 4,324 |
| Euphrates | Freedom | 1839 | 161 | Unkn'wn | ..... | *15,134 | 7,567 | 7,567 |
| Express Mail | Cincinnati | 1844 | 244 | do | ..... | *22,936 | 11,468 | 11,468 |
| Eliza, No. 2 | Easttown | 1841 | 206 | 1842 | 1 | 19,364 | 6,447 | 12,917 |
| Enterprise, No. 3 | Pittsburg | 1844 | 175 | 1846 | 2 | 16,450 | 7,896 | 8,554 |
| Eureka | Portsmouth | 1845 | 110 | Unkn'wn | ..... | *10,340 | 5,170 | 5,170 |
| Franklin | Pittsburg | 1817 | 150 | 1822 | 5 | 14,100 | 10,857 | 3,243 |
| Fidelity | New York | 1821 | 150 | Unkn'wn | ..... | *14,100 | 7,050 | 7,050 |
| Florence | Clarksville | 1822 | 60 | do | ..... | *5,640 | 2,820 | 2,820 |
| Firefly | Louisville | Unkn'wn | 19 | do | ..... | *1,786 | 893 | 893 |
| Florida | Pittsburg | 1826 | 278 | do | ..... | *26,132 | 18,066 | 18,066 |
| Fairy | Cincinnati | 1827 | 80 | 1831 | 4 | 7,520 | 5,264 | 2,256 |
| Favorite | Nashville | 1831 | 135 | 1832 | 1 | 12,690 | 3,045 | 9,645 |
| Fort Pitt | Pittsburg | 1840 | 158 | 1842 | 2 | 14,852 | 3,564 | 11,288 |
| Flying Dutchman | Cincinnati | 1840 | 169 | 1840 | New | 15,886 | ..... | 15,886 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Florence, No. 2 | ....do | 1837 | 75 | Unkn'wn | ..... | *7,050 | 3,525 | 3,525 |
| Felix Grundy | ....do | 1845 | 165 | 1847 | 2 | 15,510 | 7,448 | 8,062 |
| General Jackson | Pittsburg | 1817 | 150 | 1822 | 5 | 14,100 | 10,857 | 3,243 |
| General Harrison | Louisville | 1819 | av. 162 | 1823 | 4 | 15,228 | 10,659 | 4,569 |
| General Green | Cincinnati | 1820 | 306 | 1823 | 3 | 28,764 | 17,258 | 11,506 |
| General Robinson | Newport | 1819 | 238 | 1823 | 4 | 22,372 | 15,660 | 6,712 |
| General Pike | Cincinnati | 1835 | 151 | 1840 | 5 | 14,194 | 10,929 | 3,265 |
| Gleaner | Pittsburg | 1830 | 100 | 1832 | 2 | 9,400 | 4,512 | 4,888 |
| Gondolier | Nashville | 1831 | 110 | 1834 | 3 | 10,340 | 6,204 | 4,136 |
| Gazelle | Pittsburg | 1832 | 130 | 1838 | 6 | 12,220 | 10,021 | 2,199 |
| Grenadier | Bridgeport | 1832 | 150 | 1834 | 2 | 14,100 | 6,768 | 7,332 |
| Gainesville | Marietta | 1839 | 195 | Unkn'wn | ..... | *18,330 | 9,165 | 9,165 |
| General Brady | Pittsburg | 1839 | 178 | 1839 | New | 16,732 | ..... | 16,732 |
| Gondola | ....do | 1830 | 120 | 1832 | 2 | 11,280 | 5,414 | 5,866 |
| Glaucus | ....do | 1839 | 191 | 1842 | 3 | 17,954 | 10,772 | 7,182 |
| Gipsy | ....do | 1836 | 79 | 1838 | 2 | 7,426 | 3,564 | 3,862 |
| Governor Dodge | ....do | 1838 | 219 | 1838 | New | 20,586 | ..... | 20,586 |
| General Pike, No. 4 | Cincinnati | 1840 | 234 | 1843 | 3 | 21,996 | 13,197 | 8,799 |
| Governor Yell | Near Little Rock | 1841 | 104 | 1847 | 6 | 9,776 | 8,006 | 1,770 |
| H. L. Kenney | Cincinnati | 1836 | 165 | 1840 | 4 | 15,510 | 10,857 | 4,653 |
| Hinds | ....do | 1836 | 159 | 1840 | 4 | 14,510 | 10,157 | 4,353 |
| Home | Portsmouth | 1836 | 75 | Unkn'wn | ..... | *7,050 | 3,525 | 3,525 |
| Houma | Wheeling | 1837 | 159 | 1842 | 5 | 14,946 | 11,500 | 3,446 |
| Hero | Steubenville | 1819 | 120 | 1822 | 3 | 11,280 | 6,768 | 4,512 |
| H. Clay | Licking river | 1819 | 150 | 1826 | 7 | 14,100 | 11,985 | 2,115 |
| Hornet | Brandingburg | 1820 | 118 | Unkn'wn | ..... | *11,092 | 5,546 | 5,546 |
| Hope | Louisville | 1821 | 75 | 1825 | 4 | 7,050 | 4,935 | 2,115 |
| Hercules | Cincinnati | 1825 | 275 | 1828 | 3 | 25,850 | 15,510 | 10,340 |
| Highland Laddie | ....do | 1824 | 80 | Unkn'wn | ..... | *7,520 | 3,760 | 3,760 |
| Herald | Pittsburg | 1824 | 150 | do | ..... | *14,100 | 7,050 | 7,050 |
| Huron | ....do | 1829 | 230 | do | ..... | *21,620 | 10,810 | 10,810 |
| Homer | New Albany | 1832 | 500 | do | ..... | *47,000 | 23,500 | 23,500 |
| Halcyon | Brownsville | 1832 | 121 | 1836 | 4 | 11,374 | 7,961 | 3,413 |
| Heroine | Bridgeport | 1832 | 96 | 1836 | 4 | 9,024 | 6,316 | 2,708 |
| Hero | Brownsville | 1834 | 88 | 1836 | 2 | 8,272 | 4,070 | 4,202 |
| Havana | Shusetown | 1836 | 144 | 1839 | 3 | 13,536 | 8,121 | 5,415 |
| Howard | Pittsburg | 1836 | 122 | Unkn'wn | ..... | *11,468 | 5,734 | 5,734 |
| Hudson, No. 2 | Marietta | 1836 | 150 | 1838 | 2 | 14,100 | 6,768 | 7,332 |
| Holston | Pittsburg | 1838 | 100 | 1842 | 4 | 9,400 | 6,580 | 2,820 |
| Hulbert | ....do | 1839 | 150 | Unkn'wn | ..... | *14,100 | 7,050 | 7,050 |

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| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Henry Clay, No. 3 | Cincinnati | 1841 | 310 | 1842 | 1 | $29,140 | $6,993 | $22,147 |
| Henry Bry | St. Louis | 1843 | 347 | 1846 | 3 | 32,618 | 19,570 | 13,048 |
| Hard Times | Cincinnati | 1845 | 291 | 1848 | 3 | 27,354 | 16,412 | 10,942 |
| Henri | ....do | 1845 | 219 | 1845 | New | 20,586 | ..... | 20,586 |
| H. S. Thibodeau | ....do | 1843 | av. 162 | 1844 | 1 | 15,228 | 3,654 | 11,574 |
| Illinois | Pittsburg | 1826 | 180 | 1828 | 2 | 12,200 | 5,856 | 6,344 |
| Illinois, No. 2 | Jeffersonville | 1831 | 110 | 1835 | 4 | 10,340 | 7,288 | 3,102 |
| Indiana | Cincinnati | 1834 | 77 | 1839 | 5 | 7,230 | 5,567 | 1,663 |
| Iowa | Elizabethtown | 1834 | 140 | 1837 | 3 | 13,160 | 7,006 | 6,154 |
| Ion | Pittsburg | 1839 | 126 | 1841 | 2 | 11,844 | 5,485 | 6,359 |
| Irene, No. 2 | Pittsburg | 1843 | 144 | Unkn'wn | ..... | *8,536 | 4,268 | 4,268 |
| Iris | ....do | 1839 | 96 | 1842 | 3 | 9,024 | 5,410 | 3,614 |
| James Monroe | ....do | 1816 | 156 | 1821 | 5 | 14,664 | 11,291 | 3,373 |
| James Ross | ....do | 1818 | 270 | 1823 | 5 | 25,380 | 19,542 | 5,838 |
| July 4th | New Albany | 1831 | 100 | 1831 | New | 9,400 | ..... | 9,400 |
| Jefferson | Nashville | 1832 | 106 | 1834 | 2 | 9,964 | 4,782 | 5,182 |
| Josephine | Marietta | 1834 | 93 | 1834 | New | 8,742 | ..... | 8,742 |
| John Hancock | Bush Creek | 1835 | 95 | 1835 | New | 8,930 | ..... | 8,930 |
| John Duncan | Pittsburg | 1839 | 265 | 1844 | 5 | 24,910 | 19,130 | 5,780 |
| John Marshall | Cincinnati | 1840 | av. 162 | 1841 | 1 | 15,228 | 3,654 | 11,574 |
| John Randolph | New Albany | 1836 | 555 | 1837 | 1 | 52,170 | 12,520 | 39,650 |
| Josiah Nichol | Smithland | 1839 | 114 | 1839 | New | 10,716 | ..... | 10,716 |
| James Woods | Cincinnati | 1841 | 133 | 1842 | 1 | 12,502 | 3,004 | 9,498 |
| Juniata, No. 2 | ....do | 1841 | 134 | 1846 | 5 | 12,596 | 7,697 | 4,899 |
| J. M. White | Pittsburg | 1842 | 550 | 1843 | 1 | 51,700 | 12,408 | 39,292 |
| John Perry | Louisville | 1842 | 450 | 1842 | New | 42,300 | ..... | 42,300 |
| Jasper | New Albany | 1842 | 88 | 1844 | 2 | 7,800 | 3,744 | 4,056 |
| Jo Davies | .....do | 1842 | 259 | 1843 | 1 | 24,346 | 5,843 | 18,503 |



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|---|---|---|---|---|---|---|---|---|
| John Aull | Cincinnati | 1848 | 258 | 1846 | 8 | 24,252 | 14,551 | 9,701 |
| John O. Fallin | ....do | 1848 | av. 162 | 1845 | 2 | 15,228 | 7,309 | 7,919 |
| John Golong | Ice Creek | 1848 | 144 | 1846 | 3 | 13,586 | 8,121 | 5,415 |
| James Madison | Cincinnati | 1848 | 284 | 1846 | 8 | 26,796 | 16,077 | 10,719 |
| Knickerbocker | Pittsburg | 1838 | 169 | 1839 | 1 | 15,886 | 3,812 | 12,074 |
| Keokuck | Jacksonville | 1839 | 90 | 1841 | 2 | 8,460 | 4,060 | 4,400 |
| Keystone | Webster | 1839 | 96 | 1841 | 2 | 9,240 | 4,435 | 4,805 |
| Kansas | Pittsburg | 1836 | 112 | 1840 | 4 | 10,528 | 7,369 | 3,159 |
| Leopard | Louisville | 1829 | 60 | 1832 | 3 | 5,640 | 3,384 | 2,256 |
| Louisiana | Cincinnati | 1830 | 307 | 1836 | 6 | 28,858 | 23,668 | 5,195 |
| Louisville | Pittsburg | 1831 | 327 | 1833 | 2 | 30,738 | 14,754 | 15,984 |
| Little Rock | Jeffersonville | 1832 | 100 | 1835 | 3 | 9,400 | 5,640 | 3,760 |
| Leonidas | Cincinnati | 1833 | 125 | 1836 | 3 | 11,750 | 7,050 | 4,700 |
| Logan | ....do | 1834 | 85 | 1836 | 2 | 7,990 | 3,835 | 4,155 |
| Lilly | Pittsburg | 1836 | 82 | 1840 | 4 | 7,708 | 5,395 | 2,313 |
| Loyal Hannah | ....do | 1836 | 75 | 1842 | 6 | 7,050 | 5,781 | 1,269 |
| Logansport | Louisville | 1837 | 127 | 1838 | 1 | 11,938 | 2,865 | 9,073 |
| Livingston, No. 2 | Madison | 1836 | 175 | 1840 | 4 | 16,450 | 11,515 | 4,935 |
| Little Rock, No. 2 | Cincinnati | 1837 | 150 | 1840 | 1 | 14,100 | 3,384 | 10,716 |
| Liverpool | Liverpool | 1837 | 51 | 1838 | 1 | 4,796 | 1,151 | 3,645 |
| Little Ben | Cincinnati | 1841 | av. 162 | 1844 | 3 | 15,228 | 9,136 | 6,092 |
| Little Mail | Belle Vernon | 1842 | 82 | 1845 | 3 | 7,708 | 4,624 | 3,084 |
| Little Pike | Cincinnati | 1842 | 226 | 1845 | 3 | 21,244 | 12,746 | 8,498 |
| Linwood | ....do | 1843 | 316 | 1847 | 4 | 29,704 | 20,792 | 8,912 |
| Lodi | Wheeling | 1843 | 95 | 1845 | 2 | 8,930 | 4,286 | 4,644 |
| Lexington | Pittsburg | 1843 | 144 | Unkn'wn | | *18,536 | 6,768 | 6,768 |
| Lucy Long | Cumberland river | 1844 | 80 | 1845 | 1 | 7,520 | 1,804 | 5,716 |
| Lady Madison, No. 2 | Cincinnati | 1844 | 145 | 1848 | 4 | 13,630 | 9,541 | 4,089 |
| Lama | ....do | 1844 | 75 | 1847 | 3 | 7,050 | 4,230 | 2,820 |
| Lacon | St. Louis | 1845 | 118 | 1846 | 1 | 11,092 | 2,662 | 8,430 |
| Levant, No. 2 | Cincinnati | 1844 | 225 | 1846 | 2 | 21,150 | 10,151 | 10,999 |
| Mandan | Louisville | 1819 | 150 | 1825 | 6 | 14,100 | 11,562 | 2,538 |
| Missouri | Newport | 1819 | 177 | 1826 | 7 | 16,638 | 14,142 | 2,496 |
| Mars | Wheeling | 1819 | 55 | 1826 | 3 | 5,170 | 3,102 | 2,068 |
| Miami | Cincinnati | 1822 | 100 | 1828 | 6 | 9,400 | 7,708 | 1,692 |
| Mechanic | Marietta | 1823 | 120 | 1827 | 4 | 11,280 | 7,896 | 3,384 |
| Muskingum | ....do | 1825 | 150 | 1829 | 4 | 14,100 | 9,872 | 4,228 |
| Montezuma | Cincinnati | 1827 | 200 | 1829 | 2 | 18,800 | 9,024 | 9,776 |
| Montgomery | Cumberland river | 1828 | 140 | 1829 | 1 | 13,160 | 3,158 | 10,002 |
| Monticello | Pittsburg | 1829 | 140 | 1833 | 4 | 13,160 | 9,212 | 3,948 |

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| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Minerva | ....do | 1830 | 50 | 1832 | 2 | $4,700 | $2,256 | $2,444 |
| Messenger | Ripley | 1831 | 100 | 1835 | 4 | 9,400 | 6,580 | 2,820 |
| Missouri Belle | Elizabethtown | 1834 | 164 | 1834 | New | 15,400 | ..... | 15,400 |
| Marion, No. 2 | Freedom | 1834 | 125 | 1834 | New | 11,750 | ..... | 11,750 |
| Marion, No. 3 | ....do | 1835 | 140 | Unkn'wn | ..... | *18,160 | 6,580 | 6,580 |
| McFarland | Cincinnati | 1839 | 280 | 1839 | New | 21,620 | ..... | 21,620 |
| Medora | Gallipolis | 1839 | 112 | 1840 | 1 | 10,528 | 2,526 | 8,002 |
| Mail | Cincinnati | 1839 | 148 | 1844 | 5 | 13,912 | 10,712 | 3,200 |
| Miami, No. 2 | Marysville | 1839 | 116 | 1840 | 1 | 10,904 | 2,616 | 8,288 |
| Maid of Orleans, No. 2 | Louisville | 1839 | 276 | 1841 | 2 | 25,944 | 12,073 | 13,871 |
| Maid of Arkansas | Cincinnati | 1840 | 213 | 1842 | 2 | 20,022 | 9,610 | 10,412 |
| Medora | Louisville | 1835 | 150 | 1842 | 7 | 14,100 | 11,985 | 2,115 |
| Miss O'Fallan | Cincinnati | 1836 | 220 | Unkn'wn | ..... | *20,680 | 10,340 | 10,340 |
| Mariner | Wheeling | 1836 | 97 | 1838 | 2 | 9,118 | 4,376 | 4,742 |
| Mendota | Cincinnati | 1844 | 157 | 1847 | 3 | 14,758 | 8,854 | 5,904 |
| Monarch, No. 2 | Shippensport | 1844 | 398 | 1846 | 2 | 28,012 | 13,445 | 14,567 |
| Mount Vernon | New Albany | 1842 | av. 162 | Unkn'wn | ..... | *15,228 | 7,614 | 7,614 |
| Metamora, No. 2 | Cincinnati | 1845 | av. 162 | 1846 | 1 | 15,228 | 3,654 | 11,574 |
| Milwaukie | Pittsburg | 1845 | 180 | 1848 | 3 | 16,920 | 10,152 | 6,768 |
| Manhattan, No. 2 | ....do | 1841 | 123 | Unkn'wn | ..... | *11,562 | 5,781 | 5,781 |
| Marietta, No. 2 | ....do | 1841 | 175 | 1848 | 7 | 16,450 | 13,982 | 2,468 |
| Meriden No. 2 | ....do | 1841 | 325 | 1843 | 2 | 30,456 | 14,618 | 15,838 |
| Mentor | ....do | 1841 | 300 | 1847 | 6 | 28,200 | 23,124 | 5,076 |
| Mazeppa, No. 2 | Louisville | 1842 | 324 | Unkn'wn | ..... | *30,456 | 15,228 | 15,228 |
| Martha | Cincinnati | 1842 | 112 | 1843 | 1 | 10,528 | 2,526 | 8,002 |
| Memphis, No. 2 | New Albany | 1843 | 463 | 1847 | 4 | 43,522 | 30,465 | 13,057 |
| Monona | St. Louis | 1843 | 173 | 1847 | 4 | 16,262 | 11,858 | 4,904 |
| New Orleans | Pittsburg | 1818 | 350 | 1818 | New | 32,900 | ..... | 32,900 |



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|---|---|---|---|---|---|---|---|---|
| Nashville | Cincinnati | 1822 | 200 | 1826 | 4 | 18,800 | 13,100 | 5,640 |
| Natchez | New York | 1822 | 240 | 1827 | 5 | 22,500 | 19,170 | 8,300 |
| New York | Pittsburg | 1826 | 310 | 1832 | 6 | 20,140 | 28,894 | 5,246 |
| Native | Cincinnati | 1827 | 100 | Unkn'wn | | *9,400 | 4,700 | 4,700 |
| Neptune | Pittsburg | 1828 | 200 | Unkn'wn | | *18,800 | 9,400 | 9,400 |
| Nashville | Cincinnati | 1828 | 898 | 1834 | 6 | 87,412 | 30,677 | 6,735 |
| Niagara | Steubenville | 1829 | 150 | Unkn'wn | | *14,100 | 7,050 | 7,050 |
| New Jersey | Pittsburg | 1830 | 150 | 1832 | 2 | 14,100 | 6,768 | 7,332 |
| Napoleon | ....do | 1831 | 160 | 1834 | 3 | 15,040 | 9,024 | 6,016 |
| Neosho | Cincinnati | 1835 | 88 | 1837 | 2 | 8,272 | 8,970 | 4,302 |
| North Star | ....do | 1837 | 157 | 1839 | 2 | 14,758 | 7,083 | 7,675 |
| Naples | Marysville | 1837 | 100 | 1839 | 2 | 9,400 | 4,512 | 4,888 |
| Naomi | Pittsburg | 1839 | 184 | 1840 | 1 | 17,296 | 4,151 | 13,145 |
| North St. Louis | St. Louis | 1837 | 88 | 1839 | 2 | 8,272 | 3,970 | 4,302 |
| New Argo | Madison | 1839 | 133 | 1844 | 5 | 12,502 | 9,626 | 2,876 |
| Napoleon, No. 3 | Geneva | 1840 | 53 | 1841 | 1 | 4,982 | 1,195 | 3,787 |
| New Orleans | Cincinnati | 1840 | 305 | 1843 | 3 | 8,670 | 17,202 | 11,468 |
| Nonpareil | Louisville | 1839 | 225 | 1842 | 3 | 24,150 | 12,690 | 14,466 |
| Nick Biddle | Pittsburg | 1836 | 139 | 1837 | 1 | 13,066 | 3,145 | 9,921 |
| Newark | ....do | 1836 | 88 | 1839 | 3 | 8,272 | 4,968 | 3,303 |
| North Bend | ....do | 1845 | 150 | 1846 | 1 | 14,100 | 3,384 | 10,716 |
| Neptune, No. 3 | Freedom | 1841 | 225 | 1845 | 4 | 21,150 | 14,805 | 6,345 |
| Nodaway | Cincinnati | 1843 | 208 | 1845 | 2 | 19,082 | 9,159 | 9,923 |
| Nathan Hale | New Albany | 1843 | 135 | 1847 | 4 | 12,690 | 8,876 | 3,814 |
| Neva | Louisville | 1844 | 111 | Unkn'wn | | *10,434 | 5,217 | 5,217 |
| Nebraska | Pittsburg | 1845 | 148 | 1846 | 1 | 18,912 | 8,338 | 10,574 |
| Naragansett | ....do | 1841 | av. 162 | 1845 | 4 | 15,228 | 10,659 | 4,569 |
| Orleans | ....do | 1811 | 200 | 1813 | 2 | 18,800 | 9,024 | 9,776 |
| Osage | Cincinnati | 1830 | 149 | 1833 | 3 | 14,006 | 8,403 | 5,603 |
| Ohio | Portsmouth | 1824 | 180 | 1828 | 4 | 16,920 | 11,844 | 5,076 |
| Oregon | Marietta | 1827 | 225 | 1832 | 5 | 21,150 | 16,285 | 4,865 |
| Otto | Jeffersonville | 1831 | 163 | 1 36 | 5 | 15,322 | 11,798 | 3,524 |
| Ozark | Cincinnati | 1837 | 139 | 1840 | 3 | 13,066 | 7,839 | 5,227 |
| Oswego | Marietta | 1835 | 117 | 1839 | 4 | 10,998 | 7,698 | 3,300 |
| Ontario, No. 2 | Pittsburg | 1836 | 134 | 1839 | 3 | 12,596 | 7,557 | 5,039 |
| Ocean | Jeffersonville | 1840 | 111 | Unkn'wn | | *10,434 | 5,217 | 5,217 |
| Ocohoma | Portland | 1835 | 100 | 1836 | 1 | 9,400 | 2,256 | 7,144 |
| Osage Valley | Cincinnati | 1841 | 166 | 1845 | 4 | 15,604 | 10,923 | 4,681 |
| Ostamaro | Muskingum | 1841 | 89 | 1842 | 1 | 8,366 | 2,008 | 6,358 |
| Orphan Boy | Pittsburg | 1841 | 150 | Unkn'wn | | *14,100 | 7,050 | 7,050 |

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| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Oregon, No. 2 | Cincinnati | 1841 | 282 | 1841 | New | $26,508 | ..... | $26,508 |
| Olive Branch, No. 3 | Pittsburg | 1843 | 298 | 1846 | 3 | 27,542 | $16,525 | 11,017 |
| O'Connell | ....do | 1838 | 107 | 1836 | 3 | 10,058 | 6,035 | 4,023 |
| Oceana | ....do | 1834 | 286 | Unkn'wn | ..... | 26,884 | 18,442 | 18,442 |
| Providence | Kentucky river | 1818 | 450 | 1824 | 6 | 42,300 | 34,686 | 7,614 |
| President | Pittsburg | 1824 | 300 | Unkn'wn | ..... | *28,200 | 14,100 | 14,100 |
| Pilot | Big Bone | 1825 | 159 | Unkn'wn | ..... | *14,946 | 7,473 | 7,473 |
| Paul Pry | Unknown | Unkn'wn | 60 | Unkn'wn | ..... | *5,640 | 2,820 | 2,820 |
| Peruvian | Pittsburg | 1830 | 400 | 1833 | 3 | 37,600 | 22,560 | 15,040 |
| Pittsburg | ....do | 1831 | 100 | 1832 | 1 | 9,400 | 2,256 | 7,144 |
| Polander | Brownsville | 1831 | 131 | 1835 | 4 | 12,314 | 8,620 | 3,694 |
| Portsmouth | Cincinnati | 1831 | 95 | 1833 | 2 | 8,930 | 4,286 | 4,644 |
| President | Cumberland river | 1831 | 350 | Unkn'wn | ..... | *32,900 | 16,450 | 16,450 |
| Peoria | Elizabethtown | 1832 | 78 | 1834 | 2 | 7,332 | 3,519 | 3,813 |
| Privateer | Pittsburg | 1833 | 149 | 1837 | 4 | 14,006 | 9,804 | 4,202 |
| Potosi | ....do | 1834 | 121 | 1837 | 3 | 11,374 | 6,824 | 4,550 |
| Pontchartrain | New Albany | 1834 | 145 | 1834 | New | 18,630 | ..... | 18,630 |
| Pawnee | Pittsburg | 1835 | 198 | 1838 | 3 | 18,612 | 11,167 | 7,445 |
| Pike | Brownsville | 1838 | 90 | 1840 | 2 | 8,460 | 4,060 | 4,400 |
| Post Boy, No. 4 | Cincinnati | 1835 | 95 | 1838 | 3 | 8,930 | 5,348 | 3,582 |
| Palmyra | Freedom | 1836 | 101 | 1840 | 4 | 9,494 | 6,645 | 2,849 |
| Pirate | Pittsburg | 1838 | 128 | 1841 | 3 | 12,032 | 7,219 | 4,813 |
| Pensacola | Wheeling | 1839 | 140 | 1842 | 3 | 18,160 | 7,896 | 5,264 |
| Platte | Freedom | 1839 | 160 | 1841 | 2 | 14,040 | 6,739 | 7,301 |
| Prairie, No. 2 | Pittsburg | 1839 | 161 | 1842 | 3 | 15,134 | 9,080 | 6,054 |
| Pre-emption | Cincinnati | 1840 | 180 | Unkn'wn | ..... | *16,920 | 8,460 | 8,460 |
| Paul Jones, No. 3 | ....do | 1843 | 233 | 1848 | 5 | 21,902 | 16,864 | 5,038 |
| Patriot, No. 2 | Louisville | 1844 | 220 | 1846 | 2 | 20,680 | 9,926 | 10,754 |



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|---|---|---|---|---|---|---|---|---|
| Planter | Cincinnati | 1845 | 220 | 1845 | New | 20,680 | ..... | 20,680 |
| Peytona, No. 1 | Pittsburg | 1845 | 188 | 1847 | 2 | 17,202 | 8,257 | 8,945 |
| Queen of the West | Cincinnati | 1839 | 291 | Unkn'wn | ..... | *27,864 | 18,677 | 18,677 |
| Rufus Putman | Marietta | 1822 | 60 | 1826 | 4 | 5,610 | 3,948 | 1,662 |
| Rienzi | Pittsburg | 1836 | 141 | 1839 | 3 | 18,254 | 7,952 | 5,302 |
| Renown | Cincinnati | 1837 | 168 | 1840 | 3 | 15,822 | 9,198 | 6,129 |
| Relief, No. 1 | ....do | 1837 | 76 | 1838 | 1 | 7,050 | 1,692 | 5,358 |
| Rolla | Pittsburg | 1837 | 139 | 1838 | 1 | 18,066 | 8,136 | 9,930 |
| Reserve | Wheeling | 1837 | 115 | 1840 | 3 | 10,810 | 6,486 | 4,324 |
| Rubicon | Maysville | 1838 | 198 | 1841 | 3 | 12,742 | 7,648 | 5,094 |
| Return, No. 2 | Cincinnati | 1838 | 57 | 1839 | 1 | 5,358 | 1,286 | 4,072 |
| Rhine | Freedom | 1838 | 118 | 1841 | 3 | 11,092 | 6,654 | 4,438 |
| Rapids | Pittsburg | 1839 | 109 | 1843 | 4 | 10,246 | 7,172 | 3,074 |
| Relief, No. 2 | ....do | 1840 | 91 | 1843 | 3 | 8,554 | 5,132 | 3,422 |
| Raritan | ....do | 1840 | 138 | 1844 | 4 | 12,972 | 9,080 | 3,892 |
| Rialto | ....do | 1840 | 76 | 1842 | 2 | 7,144 | 3,429 | 3,715 |
| Republic | Cincinnati | 1842 | 147 | Unkn'wn | ..... | *18,818 | 6,909 | 6,909 |
| R. Clayton | Pittsburg | 1842 | 129 | Unkn'wn | ..... | *12,126 | 6,063 | 6,063 |
| R. T. Lytle | Cincinnati | 1842 | 230 | 1844 | 2 | 21,620 | 10,377 | 11,243 |
| Rambler | Pittsburg | 1845 | av. 162 | 1848 | 3 | 15,228 | 9,136 | 6,092 |
| Ruby | New Albany | 1843 | 98 | Unkn'wn | ..... | *9,212 | 4,606 | 4,606 |
| Radnor | Jeffersonville | 1844 | 168 | Unkn'wn | ..... | *19,822 | 9,661 | 9,661 |
| Rock River | St. Louis | 1844 | 53 | Unkn'wn | ..... | *4,982 | 2,491 | 2,491 |
| Reindeer, No. 4 | New Albany | 1844 | av. 162 | 1844 | New | 15,228 | ..... | 15,228 |
| Richmond | Louisville | 1845 | 247 | 1847 | 2 | 32,618 | 15,656 | 16,962 |
| Reindeer, No. 5 | New Albany | 1845 | 177 | 1846 | 1 | 16,688 | 8,993 | 12,645 |
| Reaper | Cincinnati | 1831 | 130 | 1832 | 1 | 12,220 | 2,932 | 9,288 |
| Return | Near Pittsburg | 1832 | 127 | 1833 | 1 | 11,988 | 2,865 | 9,073 |
| Rapids | New Albany | 1830 | 160 | 1835 | 5 | 15,040 | 11,580 | 3,460 |
| Rising Sun | Louisville | 1832 | 40 | 1833 | 1 | 3,760 | 902 | 2,858 |
| Reindeer, No. 3 | Brownsville | 1834 | 104 | 1837 | 3 | 9,776 | 5,865 | 3,911 |
| Speedwell | Big Bone | 1827 | av. 162 | Unkn'wn | ..... | *15,228 | 7,614 | 7,614 |
| St. John | Cincinnati | 1828 | 100 | 1832 | 4 | 9,400 | 6,580 | 2,820 |
| Seventy-Six | ....do | 1829 | 200 | 1833 | 4 | 18,800 | 13,160 | 5,640 |
| St. Louis | ....do | 1829 | 145 | 1834 | 5 | 13,630 | 10,495 | 3,135 |
| Shoal Water | ....do | 1831 | 96 | 1837 | 6 | 9,024 | 7,389 | 1,635 |
| Senator | Portsmouth | 1831 | 183 | 1834 | 3 | 17,202 | 10,321 | 6,881 |
| Spy | Fredericktown | 1832 | 53 | 1833 | 1 | 4,982 | 1,195 | 3,787 |
| Sea Gull | Warren | 1832 | 40 | Unkn'wn | ..... | *3,760 | 1,880 | 1,880 |
| Shamrock | Portland | 1831 | 230 | 1832 | 1 | 21,620 | 5,188 | 16,432 |



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| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Savannah | Pittsburg | 1836 | 140 | 1839 | 3 | $13,160 | $7,896 | $5,264 |
| Shylock | Smithland | 1837 | 180 | 1839 | 2 | 16,920 | 8,122 | 8,798 |
| Sultan | do | 1838 | 259 | 1839 | 1 | 24,846 | 5,843 | 18,503 |
| Smithland | do | 1839 | 234 | 1841 | 2 | 21,996 | 10,768 | 11,228 |
| Sylph | Portsmouth | 1839 | 67 | 1839 | New | 6,298 | ..... | 6,298 |
| Summerville | New Albany | 1839 | 366 | Unkn'wn | ..... | *34,404 | 17,202 | 17,202 |
| St. Louis Oak | St. Louis | 1842 | 108 | Unkn'wn | ..... | *10,152 | 5,076 | 5,076 |
| Swittsure, No. 3 | Cincinnati | 1844 | 199 | 1847 | 3 | 18,706 | 11,223 | 7,483 |
| Swallow | Louisville | 1844 | 175 | 1847 | 3 | 16,450 | 9,870 | 6,580 |
| Senate | Wheeling | 1844 | 113 | 1847 | 3 | 10,622 | 6,373 | 4,249 |
| St. Mary | Cincinnati | 1844 | 180 | 1848 | 4 | 16,920 | 11,844 | 5,076 |
| Sam Seay | Pittsburg | 1844 | 196 | 1846 | 2 | 17,860 | 8,573 | 9,287 |
| Simon Kenton | Cincinnati | 1844 | 145 | 1847 | 3 | 13,630 | 8,178 | 5,452 |
| Saline | New Albany | 1845 | 50 | 1848 | 3 | 4,700 | 2,820 | 1,880 |
| Star Spangled Banner | Cincinnati | 1845 | 245 | 1847 | 2 | 23,030 | 11,054 | 11,976 |
| Telegraph | Louisville | 1818 | 60 | 1819 | 1 | 5,640 | 1,353 | 4,287 |
| Tennessee | Cincinnati | 1819 | 416 | 1823 | 4 | 39,104 | 27,372 | 11,732 |
| Tuscaloosa | do | 1821 | 160 | Unkn'wn | ..... | *15,040 | 7,520 | 7,520 |
| Traveller | Wheeling | 1828 | 50 | 1832 | 4 | 4,700 | 3,290 | 1,410 |
| Trenton | Pittsburg | 1829 | 150 | 1833 | 4 | 14,100 | 9,870 | 4,230 |
| Thomas Jefferson | Brownsville | 1832 | 156 | 1834 | 2 | 13,664 | 6,558 | 7,106 |
| Transport | Pittsburg | 1832 | 125 | 1835 | 3 | 11,750 | 7,050 | 4,700 |
| Tom Bowline | Portland | 1833 | 100 | 1835 | 2 | 9,400 | 4,512 | 4,888 |
| Tempest | Pittsburg | 1835 | 112 | 1838 | 3 | 10,528 | 6,316 | 4,212 |
| Troubadour | Portsmouth | 1835 | 118 | 1837 | 2 | 11,092 | 5,324 | 5,768 |
| Troy | Phillipo | 1836 | 120 | 1840 | 4 | 11,280 | 7,896 | 3,384 |
| Tarquin | Smithland | 1837 | 225 | 1841 | 4 | 21,150 | 14,805 | 6,345 |
| Transit | Portsmouth | 1838 | 105 | 1841 | 3 | 9,870 | 5,922 | 3,948 |



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|---|---|---|---|---|---|---|---|---|
| Trader | Industry | 1838 | 80 | 1839 | 1 | 2,820 | 676 | 2,144 |
| Tchula, No. 2 | Cincinnati | 1840 | 200 | Unkn'wn | | *18,800 | 9,400 | 9,400 |
| Talleyrand | ....do | 1842 | 324 | 1846 | 4 | 30,456 | 21,319 | 9,137 |
| Talma, No. 2 | Louisville | 1848 | 306 | 1848 | 5 | 28,764 | 22,148 | 6,616 |
| Time | ....do | 1845 | 120 | 1848 | 3 | 11,280 | 6,768 | 4,512 |
| Virginia | Wheeling | 1819 | 150 | 1822 | 3 | 14,100 | 8,460 | 5,640 |
| Victory | Pittsburg | 1829 | 100 | Unkn'wn | | *9,400 | 4,700 | 4,700 |
| Volunteer | Steubenville | Unkn'wn | av. 162 | ...do | | *15,228 | 7,616 | 7,612 |
| Versailles | Cincinnati | 1831 | 80 | 1834 | 3 | 7,520 | 4,512 | 3,008 |
| Vetron | Mason county, Kentucky | 1833 | 86 | 1837 | 4 | 8,084 | 5,658 | 2,426 |
| Victoria | Brownsville | 1837 | 85 | Unkn'wn | | *7,990 | 3,995 | 3,995 |
| Victor | Cincinnati | 1837 | 90 | 1839 | 2 | 8,460 | 4,060 | 4,400 |
| Vienna | Ripley | 1839 | 154 | 1841 | 2 | 14,476 | 6,948 | 7,528 |
| William Penn | Pittsburg | 1825 | 150 | 1828 | 3 | 14,100 | 8,460 | 5,640 |
| William Wirt | ....do | 1836 | 110 | 1838 | 2 | 10,340 | 4,963 | 5,377 |
| W. L. Robinson | Cincinnati | 1836 | 487 | 1839 | 3 | 41,078 | 24,646 | 16,432 |
| Winchester | Parkersburg | 1837 | 188 | 1842 | 5 | 17,672 | 13,607 | 4,065 |
| Western | Elizabethtown | 1838 | 150 | 1840 | 2 | 14,100 | 6,768 | 7,332 |
| William Robinson, jr | Freedom | 1838 | 117 | Unkn'wn | | *10,998 | 5,499 | 5,499 |
| Warden Pope | Louisville | 1838 | 180 | 1840 | 2 | 16,920 | 8,121 | 8,799 |
| West Wind | Cincinnati | 1842 | av. 162 | 1846 | 4 | *15,228 | 7,616 | 7,612 |
| White Wing | Pittsburg | 1844 | 200 | 1848 | 4 | 18,800 | 13,160 | 5,640 |
| W. W. Fry | ....do | 1841 | 211 | 1842 | 1 | 19,834 | 4,760 | 15,074 |
| Water Witch | Nashville | 1830 | 120 | 1833 | 3 | 11,280 | 6,768 | 4,512 |
| Western Virginian | Wheeling | 1829 | 80 | 1832 | 3 | 7,520 | 4,512 | 3,008 |
| William Pierson | Ripley | 1831 | 116 | 1835 | 4 | 10,904 | 7,632 | 3,272 |
| Workey | Cincinnati | 1831 | 115 | 1834 | 3 | 10,810 | 6,486 | 4,324 |
| Warrior | Pittsburg | 1832 | 110 | 1836 | 4 | 10,340 | 7,238 | 3,102 |
| Waterloo | Jeffersonville | 1833 | 100 | 1837 | 4 | 9,400 | 6,580 | 2,820 |
| Woodsman | Pittsburg | 1832 | 98 | 1835 | 3 | 9,662 | 5,792 | 3,870 |
| Warren | Brownsville | 1835 | 75 | 1839 | 4 | 7,050 | 4,935 | 2,115 |
| William Wallace | Cincinnati | 1837 | 180 | 1839 | 2 | 16,920 | 8,121 | 8,799 |
| William Hulbert | Pittsburg | 1837 | 150 | 1840 | 3 | 14,100 | 8,460 | 5,640 |
| Washington, No. 8 | New Albany | 1837 | 300 | 1838 | 1 | 28,400 | 6,816 | 21,584 |
| Yazoo | Cincinnati | 1842 | 307 | 1848 | 6 | 28,858 | 23,663 | 5,195 |
| Yazoo Planter | ....do | 1841 | 83 | 1847 | 6 | 7,802 | 6,397 | 1,405 |
| Yucatan | ....do | 1843 | 141 | 1846 | 3 | 13,254 | 7,952 | 5,302 |
| Total | | | | | | 7,101,950 | 3,733,852 | 3,368,098 |



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## I—Continued.

*List of steamboats burnt on the western waters prior to the year* 1849.

| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Attakapas | Louisville | Unkn'wn | 124 | 1831 | av. 8 | $11,656 | $6,998 | $4,668 |
| Athenian | Paducah | 1838 | 148 | 1841 | 3 | 18,442 | 8,065 | 5,377 |
| Auburn | Pittsburg | 1841 | 125 | 1842 | 1 | 11,750 | 2,820 | 8,930 |
| Ambassador, No. 2 | Cincinnati | 1843 | 437 | 1847 | 4 | 41,078 | 28,754 | 12,324 |
| Balize | Unknown | Unkn'wn | 300 | 1826 | av. 8 | 28,200 | 14,920 | 13,280 |
| Belfast | Cincinnati | 1829 | 435 | 1836 | 7 | 40,890 | 34,752 | 6,138 |
| Brandywine | ....do | 1828 | 500 | 1832 | 4 | 47,000 | 32,900 | 14,100 |
| Bayou Sara | ....do | 1833 | 275 | 1840 | 7 | 25,850 | 21,972 | 3,878 |
| Ben Sherod | New Albany | 1835 | 150 | 1837 | 2 | 14,100 | 9,768 | 4,332 |
| Belle of Mississippi | ....do | 1837 | 160 | 1839 | 2 | 15,600 | 7,200 | 7,800 |
| Bee's Wing | ....do | 1843 | 153 | 1845 | 2 | 14,382 | 6,903 | 7,479 |
| Beaver, No. 3 | Louisville | 1843 | 44 | 1844 | 1 | 4,136 | 992 | 3,144 |
| Boreas, No. 2 | Pittsburg | 1845 | 222 | 1846 | 1 | 20,868 | 5,008 | 15,860 |
| Columbia | Cincinnati | 1826 | 220 | Unkn'wn | av. 8 | 20,680 | 12,408 | 8,272 |
| Cherokee | ....do | Unkn'wn | 125 | ....do.... | av. 3 | 11,750 | 7,050 | 4,700 |
| Cotton Plant | ....do | 1830 | 262 | 1832 | 2 | 24,628 | 11,821 | 12,807 |
| Chancellor | Shousetown | 1832 | 440 | 1840 | 8 | 41,360 | 36,397 | 4,963 |
| Commodore | Cincinnati | 1837 | 288 | 1842 | 5 | 22,272 | 17,226 | 5,146 |
| Commerce | ....do | 1836 | 202 | 1840 | 4 | 18,988 | 18,291 | 5,697 |
| Coquette | Elizabethtown | 1835 | 90 | 1839 | 4 | 8,460 | 5,912 | 2,548 |
| Creole | Pittsburg | 1839 | 190 | 1841 | 2 | 17,860 | 8,573 | 9,287 |
| Cumberland, No. 8 | Wheeling | 1835 | 150 | 1838 | 3 | 14,100 | 8,460 | 5,640 |
| Ceylon | Pittsburg | 1837 | 274 | 1837 | New | 25,756 | ..... | 25,756 |
| Conqueror | Ripley | 1837 | 320 | 1838 | 1 | 30,080 | 7,219 | 22,861 |
| Clinton, No. 3 | Pittsburg | 1844 | 266 | 1844 | New | 25,004 | ..... | 25,004 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Clarkesville, No. 2 | Shippensport | 1844 | 448 | 1848 | 4 | 42,112 | 29,477 | 12,635 |
| Capitol | Crooktown | 1844 | 188 | 1844 | New | 12,502 | ..... | 12,502 |
| Dolphin | Portsmouth | 1830 | 112 | 1832 | 2 | 10,528 | 5,053 | 5,475 |
| Duke of Orleans | Cincinnati | 1842 | 350 | 1847 | 5 | 32,900 | 25,333 | 7,567 |
| Decatur, No. 2 | Louisville | 1843 | 388 | 1845 | 2 | 36,002 | 17,281 | 18,721 |
| Dr. Franklin | Cincinnati | 1843 | 288 | 1846 | 3 | 26,602 | 15,961 | 10,641 |
| Eloisa | Jeffersonville | 1834 | 150 | Unkn'wn | av.3 | 14,100 | 8,460 | 5,640 |
| Empress | ....do | 1837 | 276 | 1840 | 3 | 25,944 | 15,566 | 10,378 |
| Empress No. 2 | Cincinnati | 1843 | 206 | 1846 | 3 | 19,364 | 11,608 | 7,756 |
| Fort Adams | ....do | Unkn'wn | 125 | Unkn'wn | av.3 | 11,750 | 7,050 | 4,700 |
| Florida | ....do | 1826 | 250 | ...do... | av.3 | 23,500 | 14,100 | 9,400 |
| Forrester | Brownsville | 1827 | 100 | 1833 | 6 | 9,400 | 7,708 | 1,692 |
| Fanny | Cincinnati | 1836 | 250 | 1837 | 1 | 23,500 | 5,640 | 17,860 |
| Fort Towson | Louisville | 1842 | 165 | 1845 | 3 | 15,510 | 9,306 | 6,204 |
| Fawn | New Albany | 1843 | 133 | 1845 | 2 | 12,502 | 6,001 | 6,501 |
| Grecian | Louisville | 1826 | 160 | 1826 | New | 15,040 | ..... | 15,040 |
| General Brown | Pittsburg | 1825 | 180 | Unkn'wn | av.3 | 16,920 | 10,142 | 6,778 |
| General Pratt | ....do | 1840 | 380 | 1842 | 2 | 35,720 | 17,145 | 18,575 |
| Ganges | Cincinnati | 1836 | 155 | 1840 | 4 | 14,570 | 10,199 | 4,371 |
| Home | Pittsburg | 1829 | 120 | 1831 | 2 | 11,280 | 5,414 | 5,866 |
| Harold | Rising Sun | 1838 | av.214 | Unkn'wn | av.3 | 20,116 | 12,069 | 8,047 |
| Hector | New Albany | 1841 | 250 | 1842 | 1 | 23,500 | 5,640 | 17,860 |
| Hibernia, No. 2 | Pittsburg | 1844 | 154 | Unkn'wn | av.3 | 14,476 | 8,685 | 5,791 |
| Ione | New Albany | 1832 | 200 | 1837 | 5 | 18,800 | 14,476 | 4,324 |
| Importer | Pittsburg | 1842 | 199 | 1845 | 3 | 18,706 | 11,223 | 7,483 |
| James Pitcher | Louisville | 1843 | 116 | 1846 | 3 | 10,904 | 6,542 | 4,362 |
| Lafayette | Cincinnati | 1833 | 84 | 1833 | New | 7,896 | ..... | 7,896 |
| Lancet | Maysville | 1843 | 185 | 1845 | 2 | 17,290 | 8,302 | 8,994 |
| Lleclede | St. Louis | 1845 | 250 | 1848 | 3 | 23,500 | 14,100 | 9,400 |
| Lighter | Cincinnati | 1842 | av.214 | 1842 | av.3 | 21,116 | 12,669 | 8,447 |
| Mobile | Pittsburg | 1830 | 151 | 1831 | 1 | 14,194 | 3,406 | 10,788 |
| Missourian | ....do | 1832 | 215 | 1832 | New | 20 210 | ..... | 20,210 |
| Mogul | ....do | 1834 | 414 | Unkn'wn | av.3 | 38,916 | 23,349 | 15,567 |
| Minerva | ....do | 1834 | 87 | 1835 | 1 | 8,278 | 1,986 | 6,292 |
| Monarch | Cincinnati | 1836 | 396 | 1840 | 4 | 37,224 | 26,056 | 11,168 |
| Maine | Pittsburg | 1838 | 145 | 1840 | 2 | 18,680 | 6,542 | 7,088 |
| Marmora | New Albany | 1837 | 260 | 1838 | 1 | 24,440 | 5,865 | 18,575 |
| Muscogee | Pittsburg | 1837 | 200 | 1838 | 1 | 18,800 | 4,512 | 14,288 |
| Missouri, No. 3 | ....do | 1841 | 658 | 1841 | New | 61,852 | ..... | 61,852 |
| Missouri Mail | ....do | 1843 | 220 | 1848 | 5 | 20,680 | 15,923 | 4,757 |

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| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Mail | Cincinnati | 1844 | 211 | 1848 | 4 | $19,834 | $13,884 | $5,950 |
| National | Brownsville | 1844 | 198 | 1846 | 2 | 18,612 | 8,933 | 9,679 |
| Osage, No. 3 | Cincinnati | 1841 | 130 | 1844 | 3 | 12,220 | 7,332 | 4,888 |
| Oliver Anderson | Jeffersonville | 1843 | 160 | 1846 | 3 | 15,040 | 9,024 | 6,016 |
| Perseverance | Cincinnati | 1818 | av. 214 | 1820 | 2 | 20,116 | 9,655 | 10,461 |
| Phœnix | Pittsburg | 1828 | 250 | 1832 | 4 | 23,500 | 16,450 | 7,050 |
| Protector | do | 1834 | 156 | 1834 | New | 14,664 | ..... | 14,664 |
| Pennsylvania | Williamsport | 1837 | 134 | 1839 | 2 | 12,596 | 6,046 | 6,550 |
| Pizarro | Cincinnati | 1839 | 107 | 1839 | New | 10,058 | ..... | 10,058 |
| Rifleman | Louisville | 1818 | 231 | 1824 | 6 | 21,714 | 17,805 | 3,909 |
| Robert Burns | Cincinnati | 1825 | 125 | 1829 | 4 | 11,750 | 8,225 | 3,525 |
| Reindeer | Brownsville | 1830 | 100 | 1833 | 3 | 9,400 | 5,640 | 3,760 |
| Rambler | Cincinnati | 1831 | 93 | 1833 | 2 | 8,742 | 4,196 | 4,546 |
| Randolph | New Albany | 1833 | 500 | 1836 | 3 | 47,000 | 28,200 | 18,800 |
| Rob Roy | Jeffersonville | 1834 | 192 | 1837 | 3 | 18,048 | 10,828 | 7,220 |
| Revenue | Pittsburg | 1844 | 144 | 1848 | 4 | 13,536 | 9,475 | 4,061 |
| Rob Roy, No. 3 | Cincinnati | 1845 | 112 | Uakn'wn | av. 3 | 10,528 | 6,316 | 4,212 |
| St. Louis | Pittsburg | 1818 | 250 | 1821 | 3 | 23,500 | 14,100 | 9,400 |
| Saratoga | Cincinnati | 1829 | 140 | 1832 | 3 | 13,160 | 7,896 | 5,264 |
| Samson | do | 1831 | 211 | 1836 | 5 | 19,834 | 15,272 | 4,562 |
| Sentinel | Brownsville | 1831 | 145 | 1833 | 2 | 13,630 | 6,542 | 7,088 |
| St. Martin | New Albany | 1832 | 160 | 1833 | 1 | 15,040 | 8,610 | 11,430 |
| St. Charles | Pittsburg | 1835 | 130 | 1839 | 4 | 12,220 | 8,554 | 3,666 |
| Sea Bird | New Albany | 1844 | 261 | 1848 | 4 | 14,534 | 10,184 | 4,350 |
| Teche | New Orleans | 1818 | 296 | 1825 | 7 | 27,824 | 23,650 | 4,174 |
| Telegraph | Pittsburg | 1819 | 160 | 1820 | 1 | 15,040 | 8,609 | 11,431 |
| Talisman | do | 1828 | 150 | 1832 | 4 | 14,100 | 9,870 | 4,230 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Tigress | Cincinnati | 1828 | 200 | 1830 | 2 | 18,800 | 9,024 | 9,776 |
| Tuscahonia | Jeffersonville | 1834 | 145 | 1836 | 2 | 13,630 | 6,542 | 7,088 |
| Tennessee, No. 2 | Bridgeport | 1826 | 87 | 1840 | 4 | 8,178 | 5,724 | 2,454 |
| Tonge Pello, No. 2 | Unknown | 1837 | 150 | Unkn'wn | av. 3 | 14,100 | 8,460 | 5,640 |
| Tuscaloosa | Cincinnati | 1845 | 320 | 1847 | 2 | 30,080 | 14,438 | 15,642 |
| Volant | ....do | 1830 | 80 | 1833 | 3 | 7,520 | 4,512 | 3,008 |
| Vicksburg | Jeffersonville | 1836 | 318 | 1839 | 3 | 29,892 | 17,935 | 11,957 |
| Wm. Glasgow | Pittsburg | 1837 | 249 | 1839 | 2 | 23,406 | 11,285 | 12,171 |
| Walk in the Water | New York | 1825 | 425 | 1827 | 2 | 39,950 | 19,176 | 20,774 |
| Walnut Hills | Cincinnati | 1841 | 194 | 1846 | 5 | 18,236 | 14,041 | 4,195 |
| Yellabusha | ....do | 1844 | 115 | 1848 | 4 | 10,810 | 7,567 | 3,243 |
| Total | | | 22,058 | | | 2,064,512 | 1,096,143 | 968,369 |



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I—Continued.

*List of steamboats lost by collision, &c., on the western waters, prior to the year* 1849.

| Names of boats. | Where built. | When built. | Tonnage. | Date of loss. | Age of boat. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|---|---|
| | | | | | *Years.* | | | |
| Alhambra | Fort Stephens | 1818 | 219 | 1824 | 6 | $20,586 | $16,880 | $3,706 |
| Albany | Pittsburg | 1837 | 158 | 1839 | 2 | 14,852 | 7,129 | 7,723 |
| Admiral | Cincinnati | 1845 | 248 | 1848 | 3 | 22,842 | 13,705 | 9,137 |
| Arkansas Mail | ....do | 1843 | 107 | 1848 | 5 | 10,058 | 7,744 | 2,314 |
| Arkansas, No. 5 | Louisville | 1845 | 165 | Unkn'wn | av. 2½ | 15,510 | 2,290 | 13,220 |
| Brownsville | Brownsville | 1838 | 65 | 1841 | 3 | 6,110 | 3,666 | 2,444 |
| Baltic, No. 2 | Marietta | 1840 | 200 | 1841 | 1 | 18,800 | 4,512 | 14,288 |
| B. J. Gillman | Cincinnati | 1836 | 85 | 1838 | 2 | 7,990 | 3,835 | 4,155 |
| Boquehoma | Pittsburg | 1836 | 105 | 1837 | 1 | 9,870 | 2,368 | 7,502 |
| Bob Letcher | Jeffersonville | 1830 | 161 | 1835 | 5 | 15,134 | 11,653 | 3,481 |
| Coosa | Marietta | 1826 | 106 | Unkn'wn | av. 2½ | 9,964 | 5,480 | 4,484 |
| Carrolton | Pittsburg | 1830 | 186 | Unkn'wn | av. 2½ | 17,484 | 9,616 | 7,868 |
| Cherokee | Cincinnati | 1839 | 113 | 1839 | New | 10,622 | ..... | 10,622 |
| Congress, No. 2 | ....do | 1843 | 134 | 1846 | 3 | 12,596 | 7,557 | 5,039 |
| Convoy, No. 2 | Big Muddy | 1845 | 800 | 1848 | 3 | 28,200 | 16,920 | 11,280 |
| Clermont, No. 2 | Cincinnati | 1845 | 121 | Unkn'wn | av. 2½ | 11,374 | 6,256 | 5,118 |
| Falcon | ....do | 1832 | 91 | 1833 | 1 | 8,554 | 2,053 | 6,501 |
| Friend | ....do | 1831 | 118 | 1834 | 3 | 11,092 | 6,654 | 4,438 |
| General Carroll | ....do | 1826 | 272 | 1829 | 3 | 25,568 | 15,340 | 10,228 |
| Gladiator | ....do | 1834 | 120 | 1840 | 6 | 11,280 | 9,250 | 2,030 |
| Grace Darling | Jeffersonville | 1843 | 296 | 1847 | 4 | 27,824 | 19,476 | 8,348 |
| G. A. Byard | Pittsburg | 1836 | 180 | 1836 | New | 12,220 | ..... | 12,220 |
| Hermitage | Smithland | 1838 | 82 | 1839 | 1 | 7,708 | 1,850 | 5,858 |
| Hiwasse | Tennessee river | 1843 | 161 | 1844 | 1 | 9,494 | 2,278 | 7,216 |
| John O'Fallan | Cincinnati | 1843 | 221 | 1845 | 2 | 20,774 | 9,971 | 10,803 |



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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Kate Aubrey | Louisville | 1844 | 278 | 1845 | 1 | 26,132 | 6,271 | 19,861 |
| Lady Franklin | Portsmouth | 1829 | 200 | 1835 | 6 | 18,800 | 15,416 | 3,384 |
| Lady of Arkansas | Fishing creek | 1840 | 188 | 1841 | 1 | 12,972 | 3,113 | 9,859 |
| Luda | Cincinnati | 1841 | 244 | 1843 | 2 | 22,936 | 11,009 | 11,927 |
| Mercury | Steubenville | 1819 | 115 | Unkn'wn | av. 2½ | 10,810 | 5,945 | 4,865 |
| Mammoth | Marietta | 1836 | 125 | 1837 | 1 | 11,750 | 2,820 | 8,930 |
| Malta | Cincinnati | 1836 | 100 | 1838 | 1 | 9,400 | 2,256 | 7,144 |
| Maria | ....do | 1844 | 592 | 1846 | 2 | 65,048 | 31,223 | 33,825 |
| Magic | Louisville | 1845 | 112 | 1846 | 1 | 10,528 | 2,526 | 8,002 |
| Othello | Brownsville | 1836 | 84 | Unkn'wn | av. 2½ | 7,896 | 4,343 | 3,553 |
| Paul Clifford | Cincinnati | 1831 | 100 | Unkn'wn | av. 2½ | 9,400 | 5,170 | 4,230 |
| Pekin | Pittsburg | 1838 | 104 | Unkn'wn | av. 2½ | 9,776 | 5,376 | 4,400 |
| Pittsburg, No. 3 | ....do | 1835 | 147 | 1838 | 3 | 13,818 | 8,290 | 5,528 |
| Plymouth | Shousetown | 1844 | 150 | 1845 | 1 | 14,100 | 3,384 | 10,716 |
| Pink | Pittsburg | 1845 | av. 172 | 1846 | 1 | 16,168 | 3,880 | 12,288 |
| Pride of the West | Cincinnati | 1845 | 272 | 1845 | New | 25,568 | ..... | 25,568 |
| Revenue | Louisville | 1833 | 130 | 1836 | 3 | 12,220 | 7,332 | 4,888 |
| St. Louis | Pittsburg | 1843 | 387 | Unkn'wn | av. 2½ | 36,378 | 20,008 | 16,370 |
| Telegraph | Cincinnati | 1829 | 189 | 1833 | 4 | 17,766 | 12,436 | 5,330 |
| Tom Metcalf | Jeffersonville | 1842 | 181 | 1847 | 5 | 12,314 | 9,481 | 2,833 |
| Total | | | 7,769 | | | 730,286 | 346,762 | 383,524 |





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I—Continued.

RECAPITULATION.

| | Number of boats. | Average tonnage. | Tonnage. | Original cost. | Depreciation of value. | Final loss. |
|---|---|---|---|---|---|---|
| Collisions | 45 | 172 | 7,769 | $780,286 | $346,762 | $383,524 |
| Burnings | 104 | 212 | 22,068 | 2,064,512 | 1,096,143 | 968,369 |
| Explosions | 82 | *200 | 16,400 | 1,541,600 | 770,800 | 770,800 |
| Collapsing flues | 67 | 167 | 11,189 | ..... | ..... | †134,000 |
| Bursting pipes, &c. | 19 | ..... | 3,173 | ..... | ..... | ‡19,000 |
| Snagged, &c. | 419 | 169 | 70,811 | 7,101,950 | 3,733,852 | 3,368,098 |
| Total | 736 | ..... | 131,400 | 11,488,348 | 5,947,557 | 5,643,791 |

* Supposed. † Supposed loss, $134,000—$2,000 each.
‡ Supposed loss, $19,000—$1,000 each.

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# APPENDIX A.

[The Commissioner of Patents, in his report to the Senate of the United States, at the session of 1848–'49, on the explosions of steamboat boilers, has the following results. By examination it will appear that a portion of these were not on the waters which flow into the Gulf of Mexico, (a section of country to which alone this report applies,) which being deducted, leave for the West the following numbers as data for calculating losses:]

| | Number of boats. | Explosions. | Collapsing flues. | Bursting pipes, &c. | Pecuniary losses. | Average losses. | Persons killed. | Number of boats on which it occured. | Average number on each. | Suppos'd whole number. | Persons wounded. | Number of boats on which it occurred. | Average number on each. | Suppos'd whole number. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Commissioner's report..... | 233 | 101 | 71 | 23 | $997,650 | $18,302 | 1,805 | 164 | 11 | 2,563 | 1,015 | 111 | 9 | 2,097 |
| Deduct..... | 45 | 19 | 4 | 4 | 361,150 | ..... | 358 | 31 | ..... | ..... | 136 | 31 | ..... | ..... |
| Leaving for western losses..... | 188 | 82 | 67 | 19 | 636,500 | 3,385 | 1,447 | 133 | 9 | 1,692 | 879 | 80 | 5 | 940 |



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## APPENDIX B.

[From the Cincinnati "Western Boatman," January, 1849.]

### IMPORTANT STATISTICS.

From tables in this number, and those heretofore published in the *Western Boatman*, much valuable statistical information can be obtained.

The editor has not relied upon the wild and visionary publications heretofore made upon the subject. He has called personally upon a very large number of boats and examined their papers. He has collected the names of officers by personal inquiry. He copied the records of custom-house officers, and the books of Insurance Companies.

He a has personal knowledge of most of the boats. He has brought forward the NAMES of those known to be now running, and the *dates* of the loss of others. He has done but little by *guess;* therefore he can pronounce it the best history of steamboats and steamboat men now in existence.

Taking these tables as the ground work of his calculations, and adding the results of long experience and close observation, he flatters himself with the belief, that he not only presents matters of importance to the public now, but that it will be useful hereafter as a reference.

The following facts and estimates are thrown out as approaching more nearly the truth in respect to the *number, size, value, annual expenditures,* and *rapid depreciation of capital invested* in our western steamboats, than any thing that can be obtained from any other source.

The first thing that presents itself is the astonishing fact, that there are on these waters but *twenty-two* boats more than five years old.

In the list of boats built before 1835, as published in this work, the *average* age of those not destroyed was nearly five years, and of those lost by violence nearly four years.

In the next table the *average age* of those not destroyed was four years and ten months, and of those lost, two years 3¼ months.

We now have but 22 out of 572, more than five years old.

In both the former tables it appears that one-half of the boats built were lost by sinking, burning, or exploding.

From these, and from noticing other facts appertaining to this matter, we are warranted in the conclusion, that one-half the boats now running will be lost, by sinking or otherwise, at the average age of two years, (3¼ months less than that shown by former tables) and that the other half will, after receiving ordinary repairs, arrive at ages averaging three and a half years, and no more.

Now, with this data, we will make out an account-current with the owners of steamboat stock, showing the annual depreciation of this kind of property, taking, as the average standard, boats of 211 tons, custom-house measure.

| | |
|---|---|
| We will first suppose that with new machinery and the present expensive cabins and furniture will cost, all complete, | $100 00 per ton. |
| But as there is at least one-third of the boats with old machinery and furniture, they will be set down as of 18 per cent. less value—equal on the whole to---------- | 6 00 |
| **Leaving the actual value of new boats at---------** | **94 000 per ton.** |

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Half of these boats may be renewed once, at three and a half years old, with engine and furniture, worth 30 per cent. of the original cost of the boat, being 15 per cent. on all boats---------- 14 00 per ton.

80 000 per ton.

Leaving the actual depreciation of $80 per ton in 3½ years; or 24 per cent. per annum on the capital invested.

The other half of the boats will be totally lost or abandoned at the age of two years, Insurance Companies taking what may be saved to their own account.*

---

*Steamboat owners in account-current with boat,* CR.

| | | |
|---|---|---|
| By cost of boat complete, 211 tons, at $94 | | $19,834 00 |
| Interest on same, 1 year at 6 per cent. | | 1,190 04 |
| Insurance 9 months, at 12 per cent. per annum | | 1,785 06 |
| Ordinary repairs and cost of laying up | | 1,200 00 |
| Outlay first year | | 24,019 10 |
| Deduct value of boat at the end of the first year, 24 per cent. less original cost. | | |
| First cost | $19,832 00 | |
| Deduct 24 per cent | 4,759 68 | |
| | | 15,072 32 |
| Expended first year | | 8,936 78 |
| Value of boat at beginning of 2d year | | $15,072 32 |
| Interest on that value second year | | 904 33 |
| Insurance 9 months at 12 per cent. per annum | | 1,356 49 |
| Ordinary repairs and cost of laying up | | 1,200 00 |
| Outlay second year | | 18,533 14 |
| Deduct value of boat at end of second year, 24 per cent. less original cost. Thus: | | |
| Value | $15,072 32 | |
| Deduct | 4,759 68 | |
| | | 10,312 64 |
| Expended second year | | 8,221 50 |
| At the end of the second year half the boats will be abandoned to underwriters. Whole value | | $10,312 64 |
| Half paid in by insurance companies | | 5,156 32 |
| Value of steamboat stock at beginning of third year | | 5,156 32 |
| Interest on that value at 6 per cent | | 309 37 |
| Insurance 9 months at 12 per cent. per annum | | 464 06 |
| Repairs, &c. (half former charge) | | 600 00 |
| Amount carried forward | | 6,529 75 |

* Boats are only insured at two-thirds their value—the owner risks the other third; but we have considered him as insurer to that amount, and charged the boat as if insured at the full value.

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| | | |
|---|---|---|
| Amount brought forward | | $6,529 75 |
| Deduct value of boat at end of third year, less 24 per cent. of original cost on surviving half. Thus: | | |
| Value | $5,156 32 | |
| Deduct | 2,379 84 | |
| | | 2,776 48 |
| Expended third year | | 8,756 27 |
| Value of boat beginning of fourth year | | $2,776 48 |
| Interest on value 6 months at 6 per cent | | 82 79 |
| Insurance 4½ months at 12 per cent. per annum | | 124 18 |
| Repairs, &c. | | 300 00 |
| | | 3,283 45 |
| Deduct value of boat at 3 years and 6 months, less half of 24 per cent. on surviving stock. Thus: | | |
| Value | $2,776 48 | |
| Deduct | 1,189 92 | |
| | | 1,586 56 |
| Expended last half year | | 1,696 89 |

Thus we see the rapidity with which steamboat stock runs down.

| | |
|---|---|
| There must be received in the 1st year | $8,936 78 |
| " " " 2d year | 8,221 50 |
| " " " 3d year | 8,753 27 |
| " " " last half year | 1,696 89 |
| Making | 22,608 44 |

So as to leave the pitiful sum of $1,586 56 profits at the end of three and a half years, after paying interest, insurance and repairs, and that to be obtained by the sale of old machinery.

| | |
|---|---|
| In this calculation we have made the insurance companies to pay | $5,156 32 |
| While the premiums are but | 3,729 97 |
| Difference | 1,426 35 |

But it will be recollected that there is seldom any *absolute* total loss of steamboats; they are often abandoned to underwriters when but *partially* damaged; out of these wrecks the companies must make the $1,426 35, or they will loose money.

They generally do this with the addition of their profits.

We have adopted this mode of estimating, because it conforms with the usual practice of settling insurance policies.

*Cost of running boats.—Wages.*

| | |
|---|---|
| Captains from...$50 to 120, say per month | $90 00 |
| 2 pilots from....60 to 160 each, say, per month, $120 | 240 00 |
| 1 1st engineer...50 to 100, say per month | 75 00 |
| 1 2d engineer....30 to 50, " " | 40 00 |
| 1 apprentice.....15 to 25, " " | 20 00 |
| 1 mate.....30 to 60, " " | 45 00 |
| 1 watchman.....25 to 35, " " | 30 00 |
| 1 clerk.....40 to 100, " " | 70 00 |
| 1 2d clerk.....20 to 30, " " | 25 00 |
| 1 carpenter.....30 to 40, " " | 35 00 |
| 1 cook.....35 to 45, " " | 40 00 |
| 2 cook's boys....16 to 20 each, per month | 36 00 |
| 1 steward.....30 to 50, " " | 40 00 |

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| | |
|---|---|
| 4 cabin boys..... 8 to 20, each per month..... | $56 00 |
| 1 chambermaid...16 to 20, per month..... | 18 00 |
| 6 deck hands.....20 to 25, each per month..... | 135 00 |
| 8 firemen.....20 to 25, " "..... | 180 00 |
| Wages, per month..... | 1,175 00 |
| Provisions, per month..... | 800 00 |
| Wood, 32 cords for each 24 hours, 18 full running days in the month, 576 cords at $1 75 per cord..... | 1,008 00 |
| Wharfage..... | 90 00 |
| Perhaps one-eighth of boats pay canal tolls, at 50 cents per ton each way.. | 26 00 |
| Labor freighting in ports, per month..... | 30 00 |
| | 8,129 00 |
| Running season of large boats and packets, average each year eight and a half months, $3,129, multiplied by 8½..... | $26,596 50 |
| Add interest, insurance, repairs and depreciation, thus: If 12 months 12 months 6 months 8 months, making 38 months, requires an expenditure or produces a loss of $22,609 44, what will one year require..... | 8,221 25 |
| Expended by each boat annually..... | 34,817 75 |
| | 572 |
| | 6963550 |
| | 24372425 |
| | 17408875 |
| Nearly twenty millions! | 19,915,753 00 |

*Value of boats.*

| | |
|---|---|
| Boats at any given period of time must be of different ages and value. We gather from the foregoing tables that a 211 ton boat, at six months old, will be worth..... | $17,453 16 |
| At one year and six months old..... | 12,692 48 |
| At two years and six months old (half the boats at this age being lost).. | 3,966 40 |
| At three years and three months (as above)..... | 2,181 52 |
| This being the value at 4 periods, we divide by 4 | 4)36,293 56 |
| Value of each boat..... | 9,073 39 |
| | 572 |
| | 1814678 |
| | 6351873 |
| | 4536695 |
| Value of boats now running, *more than five millions.* | 5,189,979 08 |

Most boats can carry down stream about double the custom-house measurement; up stream full that amount. Packet-boats generally go with light freights; we therefore set down the custom-house measure as the full amount actually carried by boats.

Boats while under way up and down, including short stoppages, make



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about 180 miles each 24 hours, and run 18 days in the month for 8½ months in the year.

The calculation will run thus: 180 miles 18 days, 3,240 miles per month; 8½ months make in the year 27,540 miles for each boat.

If one boat runs 27½ thousand miles in a year, 572 boats will run 15,730 thousand miles.

Each boat carrying 211 tons of freight, we have the result, 3,319,030 tons of freight moved one thousand miles in a year.

If this be charged at the rate of three dollars per ton, it will make the sum of $9,957,090.

If each boat carries 40 cabin and 30 deck passengers, 70 persons 27½ thousand miles, it is equal to 1,925 persons 1,000 miles each, on one boat; and on all the boats, 1,101,100 persons, *each one thousand miles.*

If cabin passage for a thousand miles be ten dollars, and deck passengers two dollars and fifty cents, 475 dollars 27½ times make $13,062 50 for each boat; and for all the boats—

| | |
|---|---|
| Passenges | $ 7,471,750 00 |
| Freights | 9,957,090 00 |
| | 17,428,840 00 |

These figures are startling to steamboat owners.

| | |
|---|---|
| Insurance, interest, depreciation, repairs, wages, fuel, provisions, wharfage, and other charges, amounting to | $19,915,753 00 |
| Freights and passengers, in the quantities and at the prices named, if they could be obtained | 17,428,840 00 |
| Difference | 2,486;913 00 |

They require re-examination to gain credit, but we fear they will be found too nearly true.

This great public convenience of conveying persons and property with such facility, is at the sacrifice of the interest of a large portion of those who are engaged in conducting it.

Prices of freights and passages are at ruinously low rates, and cannot be better until we cease to overbuild.

Let those who can with convenience, withdraw from this fascinating business of steamboating. Let all who are not involved in it stand aloof, until the tonnage on the rivers be reduced to the wants of the country; until remunerating prices can be obtained.

A short time will effect the object, if persons will only cease to overbuild.

If this be not done, a great loss must fall somewhere; and what evidence has any one that it will not fall on him?

Surely there is no prudent man, with these facts before him, but will hesitate before he will add another ton to the now overdone amount of steamboat stock.

The tables present other considerations that will find a place in a future number.

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Since the foregoing article was prepared, we have seen extracts from the report of the Commissioner of Patents to the Senate of the United States on the subject of steamboat explosions, and other injurious escapement of steam. It embraces a period of thirty-two years, from 1816 to 1848. The whole number of boats on which these disasters occurred, is stated at 233; the number of lives lost, 2,563; the number of persons wounded, 2,097; the pecuniary loss $3,099,366. This of course includes steamboats on the eastern waters; on the lakes, tow-boats and ferry-boats, none of which are included in the tables of the western boatmen. If we strike off 563 for these, we of the West have 2,000 human beings killed suddenly by the bursting of steam-machinery, and nearly as many wounded.

This array of numbers is appalling, and calls for every remedy that can be applied.

But, on the other hand, if we take a full view of the case, it is but a small matter, and should produce but little alarm.

To show this we will review the published tables.

*Table* 1, *No.* 3.—Boats built before 1835, 684; one-half lasted nearly five years, the other half nearly four years; average age four years and six months; average tonnage 155.

*Table* 2, *No.* 4.—From 1835 to 1840, 552; one-half lasted four years and ten months, the other half two years 3½ months; average three years six and a half months; average tonnage 164.

*Table* 3, *No.* 5.—From 1840 to 1845, 522, of which 102 are still living, leaving 420 lost or abandoned in three years; average one year and six months; average tonnage 191.

*Table* 4.—Present number of boats now running, 572, built at different periods; average one year and six months; average tonnage 211.

*Now, first.* If a 211-ton boat carry in a year (as it appears by the tables) 1,925 persons, one thousand miles each, we may suppose that smaller boats did carry a proportionate number the same distance.

| | |
|---|---|
| Thus, if a 211-ton boat carry 1,925 persons, a 155-ton boat will carry 1,414—684 boats in 4½ years | 1,352,292 |
| *Second.* If a 211-ton boat carry 1,925 persons, a 164-ton boat will carry 1,496—552 boats in three years and 6½ months | 2,924,680 |
| *Third.* If a 211-ton boat carry 1,925 persons, a 191-ton boat will carry 1,742—420 boats in one year and six months | 1,097,160 |
| *Fourth.* If a 211-ton boat carry 1,925 persons—572 boats in one year and six months | 1,651,650 |
| Persons carried in thirty-two years | 10,026,082 |

Of these 2,000 were killed, making one in 5,013. About the same number wounded.

To include killed and wounded, one in 2,506.

Include all accidents, and we suppose there is not one in *one thousand* who is either killed or wounded in travelling one thousand miles on our western waters.

Can any other mode of conveyance compare with this for safety?

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## APPENDIX C.

In early times, steamboats were not generally insured. When insurances were first taken out they were at six per cent. per annum. Companies soon found this to be a ruinous business, and they gradually raised their premiums up to twelve per cent. per annum; and many companies refused to take risks even at that rate. Taking the experience of underwriters in regard to steamboat hulls, and supposing the present tariff of marine insurance to have been arrived at in the same way, we have a data from which to calculate the losses on cargo by steamboat disasters. We have shown in our calculations (Appendix B) that each boat is supposed to run 27,500 miles in one year; for which the owners pay 12 per cent. on her value. Now, western insurance on cargo (see Appendix D) is about 1 per cent. per 1,000 miles, or 27½ per cent. on the cargo, if it be no more than the value of the boat. We may, therefore, safely say that the cargo lost has been two and one-quarter times greater than that of boats.

---

## APPENDIX D.

*River risks by good steamboats.*

| | | |
|---|---|---|
| | *Mississippi river.* | |
| To points not below Cairo | | ¼ per cent. |
| Do. | Memphis | ¾ do |
| Do. | New Orleans | 1 do |
| To points not above Keokuk | | ¼ do |
| Do. | Rock island | ¾ do |
| Do. | [illegible] | 1 do |
| Do. | Fort Snelling | 1¼ do |
| | *Missouri river.* | |
| To points not above St. Charles | | ¼ do |
| Do. | Rocheport | ¾ do |
| Do. | Lexington | 1 do |
| Do. | Kansas | 1¼ do |
| Do. | Savannah | 1½ do |
| Do. | Iowa Point and [illegible] Landing | 1¾ do |
| Do. | Council Bluffs | 2 do |
| | *Illinois river.* | |
| To points not above Ottowa | | ¼ do |
| Via canal, to Chicago | | ¾ do |
| Via lake, to Cleveland | | 1¼ do |
| Via lake, to Buffalo | | 1½ do |
| | *Ohio river.* | |
| To points not above Louisville, Ky. | | ½ do |
| Do. | Cincinnati | ¾ do |
| Do. | Pittsburg | 1 do |
| | *Cumberland river.* | |
| To points not above Nashville | | 1 do |
| Do. | Gainesboro' | 1¼ do |

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*River risks by good steamboats*—Continued.

| | |
|---|---|
| *Tennessee river.* | |
| To points not above Eastport | 1 per cent. |
| Do.....Tuscumbia | 1¼ do |
| Do.....Knoxville | 1¾ do |
| *Arkansas river.* | |
| To points not above Port of Arkansas | 1½ do |
| Do.....Little Rock | 2 do |
| Do.....Lewisburg | 2½ do |
| Do.....Fort Smith | 3¾ do |
| Do.....Fort Gibson | 4½ do |
| *White river.* | |
| To points not above Batesville | 2½ do |
| *Red river.* | |
| To points not above Alexandria | 1½ do |
| Do.....Natchitoches | 1¾ do |
| Do.....Shreveport | 2 do |
| Do.....Foot of Raft | 2¼ do |
| Do.....White Oak Shoals | 4 do |
| *Osage river.* | |
| To points not above Warsaw | 1¼ do |
| Do.....Osceola | 1½ do |

## APPENDIX E.

In estimating the original cost of steamboats, with all their furniture and rigging complete, we place them at ninety-four dollars per ton, (see Appendix B,) and the depreciation at 24 per cent. per annum on the original cost for the first and second years of their ages. After that period they require expensive repairs, so as to make a nearer estimate by calculating the value at about 24 per cent. per annum on the worth of the boat at the beginning of each successive year.

| | | | |
|---|---|---|---|
| At the end of the 1st year | 24 | per cent. | on the original value. |
| Do.....2d year | 48 | do | do |
| Do.....3d year | 69 | do | do |
| Do.....4th year | 70 | do | do |
| Do.....5th year | 77 | do | do |
| Do.....6th year | 82 | do | do |
| Do.....7th year | 85 | do | do |
| Do.....8th year | 88 | do | do |

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## APPENDIX F.

In the table from which this report is principally made up, we find, at three periods, the following number of boats, with their tonnage, which have been *built*, *worn out*, and lost by *disasters*, in the west, prior to the year 1849:

| Boats. | Tonnage. | Average tonnage. | Average number of years they lasted. |
|---|---|---|---|
| 684 | 106,135 | 155 | 4½ |
| 552 | 90,791 | 164 | 3½ |
| 420 | 80,220 | 191 | 3¼ |
| 1,656 | 277,146 | 167 | 3¾ |

If these had been fully insured at 12 per cent. per annum on their value, at the different ages for nine months in each year, we would have the following results:

| | | |
|---|---|---|
| 1,656 boats, 167 tons each, at $94 per ton | $25,995,888 | |
| Premium 1st year of their age | | $2,339,629 |
| Deduct for 2d year 24 per cent. of first cost, leaves | 19,756,875 | |
| Premium 2d year on this value | | 1,778,118 |
| Deduct for 3d year 48 per cent. on first cost, leaves | 13,517,862 | |
| Premium 3d year on this value | | 1,216,607 |
| Deduct for 4th year 60 per cent. on first cost, leaves | 10,398,356 | |
| Premium three-fourths of running season of 9 months on this value | | 701,889 |
| Supposed premiums | | 6,036,243 |
| Losses on boats, as per tables | | 5,643,791 |
| Gain of underwriters | | 392,452 |

DAVIS EMBREE.

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St. Louis, Mo., *December* 12, 1851.

Dear Sir: In compliance with your request, I here report a table of losses sustained on the waters of the Mississippi and Gulf of Mexico, up to the year 1849, so far as collected, after great research; and which I am flattered in believing is more full than anything now embodied on that subject.

I know of no reliable accounts of the number of persons killed or wounded by *burnings, collisions, snaggings,* or other sinkings; nor have I any data on which to make a calculation on that subject, which would be satisfactory.

I am aware that many of the old boats lost, as named in this report, were worth more at the time of loss than the sums set down to them, in consequence of having had heavy expenditures in repairs. I am also aware that much property was lost and injured by snaggings and collisions, when the boats were not lost, and when, of course, we have no reliable accounts. On the other hand, I am aware that much property has been saved from wrecks, which is not accounted for in this table. These may be as set-offs to each other.

I have referred to a printed article in number eight of the "Western Boatman," under the title "Important Statistics," marked B, which I would thank you to embrace as a part of this report. One statement in that article may require some explanation—that is, the apparent annual loss in running western boats. These losses do not always occur; sometimes large amounts of money are made. The business is much of the nature of a lottery—with some prizes, and many blanks.

The greater portion of steamboat stock (say two-thirds) is owned on board by officers, on shore by boat-builders, by boat-store keepers, and by engine-builders. The losses that occur have often only the effect of lessening high salaries, and high prices of boats, engines, and stores. The other portion of stock is principally owned by commission-merchants, or by persons who wish to place relatives as officers on boats. There are but few instances of persons holding steamboat stock for the purpose of making money, independent of other interest.

The steamboat interest has often fallen into reckless hands. The inquiry, too often, is not, "Who is best qualified to manage boats?" but, "Who has the most money to invest, or lend?" These things ought not to be; they call on government to take cognizance of this subject, and apply proper remedies.

RECAPITULATION.

| | |
|---|---|
| Boats built prior to 1849 | 1,656 |
| " lost by disasters (nearly 44⅛ per cent.) | 736 |
| Losses on boats, as per tables | $5,643,791 |
| Losses on cargo (see appendix C,) | 12,698,529 |
| Total loss | 18,342,320 |

Yours, respectfully,

DAVIS EMBREE.

Capt. W. W. Green,
*Collector of Customs at the port of St. Louis, Mo.*

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# MESSAGE

FROM THE

# PRESIDENT OF THE UNITED STATES,

SUBMITTING

*A copy of rules and regulations for masters, officers, and seamen of vessels of the United States at the free ports of China.*

MARCH 5, 1852.

Read, ordered to lie on the table, and be printed.

*To the Senate and House of Representatives of the United States:*

In compliance with the provisions of the act of Congress of the 11th of August, 1848, I transmit to that body the copy of a despatch from the commissioner *ad interim* of the United States at Canton, together with the copy of certain rules and regulations for masters, officers, and seamen of vessels of the United States of America at the free ports of China, which accompanied said despatch, and which are submitted for the revision of Congress.

MILLARD FILLMORE.

WASHINGTON, *March* 1, 1852.

LEGATION OF THE UNITED STATES,
*Canton, May* 10, 1851.

*To Millard Fillmore, President of the United States of America:*

The attention of this legation having been called, by two of the United States consuls in China, to the necessity of framing certain port regulations, the accompanying "*rules and regulations for masters, officers, and seamen of vessels of the United States of America at the free ports of China,*" have been adopted.

The assent of each of the consuls having been given thereto, I now have the honor, conformably to the sixth section of act of Congress of 11th August, 1848, to transmit the same "to the President, to be laid before Congress for revision."

With sentiments of profound respect,

PETER PARKER.

OFFICIAL NOTIFICATION.

LEGATION OF THE UNITED STATES,
*Canton, March* 10, 1851.

The undersigned, charge d'affaires *ad interim* of the United States of America to China, hereby publishes, for the information of those whom it may

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concern, the following regulations; which have been adopted, liable to such modifications as future experience shall suggest, and subject to the revision of Congress, as provided by the sixth section of the act of Congress of 11th August, 1848, (appendix A;) but, in the mean time, as provided by the fourth section of the same act, (appendix B,) having the force of law.

PETER PARKER.

—

*Rules and regulations for masters, officers, and seamen of vessels of the United States of America at the free ports of China.*

I. Whereas jurisdiction over citizens of the United States, within the empire of China, being, by treaty, reserved to the United States, by act of Congress, approved 11th August, 1848, the statute laws and common law of the United States have been extended over said citizens in China, so far as they shall be found applicable, in all civil and criminal cases; (appendix B.) To avoid, as far as possible, the necessity of executing said laws in such cases, it is hereby specially enjoined upon masters and officers of vessels of the United States to use due vigilance to preserve the peace, and prevent difficulties between all seamen and subjects of China, while anchored at either of the five free ports.

II. Seamen are not allowed to land in the vicinity of the anchorage of the vessel to which they belong, or to visit the neighboring city, without permission of the captain or commanding officer, and then under charge of an officer of the vessel, and in no instance to be absent from the vessel over night: provided, however, that the master may make exception in favor of those seamen in whose good character he can confide, and for whose correct conduct he is responsible.

The master, or officer in command, will judiciously decide the number of sailors to be absent from the vessel at any one time.

III. Seamen absent from the ship, whether in the vicinity of the anchorage or at the neighboring city, shall be on board within the time specified by the master, or commanding officer. Should any fail of so doing, or be guilty of misconduct while thus absent, they shall be liable to punishment, by fine or otherwise, at the discretion of the consul or consular agent.

IV. Chinese boatmen having voluntarily consented to be registered at the consul's or consular agent's office, it is recommmended to masters of vessels, in employing Chinese boats while in port, to give employment to such only as submit to such registration.

V. Chinese boats, with fruit and small articles of trade, *spirituous liquors excepted*, are permitted to approach ships, but only at such times during the day as the master, or commanding officer, may deem proper.

VI. Masters of vessels are required, on the one hand, to see that all just claims of subjects of China against seamen belonging to their ships are duly liquidated; and, on the other, to prevent, as far as possible, the Chinese from defrauding seamen.

VII. Serious collisions occurring between citizens of the United States (whether seamen or others belonging to an American vessel) and subjects of China, in which robbery or violence is committed by either party, or in which the death of a Chinese or foreigner ensues, the master, or commanding officer, of the vessel to which the latter belongs, shall, without delay,

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report the same to the United States commissioner to China, or to the consul or consular agent of the port in which the crime is committed, in order to immediate judicial investigation and action.

Assented to: R. B. FORBES,
*Vice Consul of U. S. A. at Canton, March* 14, 1851.

Assented to: CHARLES WILLIAM BRADLEY,
*Consul of U. S. A. at Amoy, March* 27, 1851.

Assented to: JNO. ALSOP GRISWOLD,
*U. S. Consul at Shanghae, April* 24, 1851.

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## APPENDIX.

[From act of Congress of August 11, 1848.]

### A.

SEC. 6. *And be it further enacted*, That all such regulations, orders and decrees shall, as speedily as may be after publication, be transmitted by the commissioner, with the opinions of his advisers, as drawn up by them severally, to the President, to be laid before Congress for revision.

### B.

SEC. 4. *And be it further enacted*, That such jurisdiction in criminal and civil matters shall, in all cases, be exercised and enforced in conformity with the laws of the United States, which are hereby, so far as it is necessary to execute said treaty, extended over all citizens of the United States in China, (and over all others to the extent the terms of the treaty require,) so far as such laws are suitable to carry said treaty into effect; but in all cases where such laws are not adapted to the object, or are deficient in the provisions necessary to furnish suitable remedies, the common law shall be extended in like manner over such citizens and others in China; and if defects still remain to be supplied, and neither the common law nor the statutes of the United States furnish appropriate and suitable remedies, the commissioner shall, by decrees and regulations which shall have the force of law, supply such defects and deficiencies.

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32d Congress, 1st Session. [ SENATE. ] Ex. Doc. No. 44.

# REPORT

OF

# THE SECRETARY OF THE NAVY,

COMMUNICATING

*Copies of contracts for the construction of dry-docks, basins and railways, at Kittery, Philadelphia, and Pensacola, and for a floating sectional dock at San Francisco.*

March 5, 1852.
Read.
March 8, 1852.
Ordered to be printed.

Navy Department,
*March* 4, 1852.

Sir: In compliance with a resolution of the Senate, adopted the 20th ultimo, I transmit herewith, copies of the contracts for the construction of dry-docks, basins, and railways at Kittery, Philadelphia, and Pensacola, respectively, numbered 1, 2, and 3; also, a copy of the contract for the construction of a floating sectional dock on the bay of San Francisco, numbered 4.

In further reply to said resolution, I have the honor to state, that no advertisement was made inviting proposals for the work last named, and that in the view of this department none was required.

The original law upon this subject, approved September 28, 1850, was as follows:

"For commencing the construction of a floating dry-dock on the coast of California, one hundred thousand dollars; and the Secretary of the Navy is authorized to enter into a contract for the construction, with all reasonable despatch, of a sectional or balance floating dry-dock, basin and railway, at such harbor on the coast of the Pacific ocean as he may select, of a capacity and dimensions in no respect inferior to those of the dry-dock in progress of construction at Pensacola: *Provided*, that by granting the said contractors permission, if required, to prepare the materials chiefly at some harbor on the Atlantic sea-board, and advancing moneys thereon as the works progressed, the said works can be completed at a sum not exceeding by more than twelve per cent. the total amount contracted to be paid for the floating-dock, basin and railway at the Pensacola navy yard, with the addition thereto of what would be the cost of transportation to said coast of the said materials thus prepared, and with the reservation till the works are done, of ten per cent., and the usual surety for the faithful performance of the contract; and the Secretary of the Navy shall also be authorized to enter

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into an agreement with the contractors, if they will keep the said works in repair and take proper care of the same for any given period of years, free of charge to the government, to permit them to use the said works during such period, on their own account, for repairing merchant vessels, when not occupied by vessels of the navy, to which precedence shall at all times be given, on such terms as he shall deem reasonable."

Under this law the department determined that a sectional dock should be established in preference to a balance dock, and that some situation on the bay of San Francisco was the most eligible position for the contemplated work on the coast of the Pacific ocean. The law itself did not require any advertisement, but described two structures, viz: the dock, and basin and railway, both of which were claimed as patented inventions under regular letters from the Patent Office of the United States. Referring these claims to the proper bureau for inquiries, the department became satisfied, from the report made, that patents existed; and although counter claims were set up, by two other distinct parties, to the patent for the dock, that Messrs. Dakin & Moody, who had been for four years engaged in building a similar dock for the government, and had during that period received large sums of money in part payment therefor, without hindrance by judicial process from any quarter, were entitled to be respected as the owners of the patent. A copy of the report of the Chief of the bureau on this point is appended hereto, (No. 5.) It determined, however, to allow no unreasonable exaction for the use of the patent, but to permit to the claimants the refusal of the contract, before taking any further step in the premises.

With the consent of the department, they accordingly submitted proposals for the dock, basin and railway, which were referred to the Bureau of Yards and Docks for consideration, and the bureau was also called upon for a minute estimate of the proper cost of the works desired.

The estimate made in obedience to the order fell considerably below the proposals, and amounted in the aggregate to the sum of $1,530,000. But the department not being satisfied, directed an estimate of the actual cost of such works at the port of Pensacola, with a view to determine what should be added for the cost of the same in California, in expectation of a reduction in the amount. And upon this were based experimental calculations, to test the correctness of the estimates of the bureau, but with no result which received the approbation of the department.

During the preparation of the estimates for Pensacola, Congress assembled on the 2d of December, 1850, and in the annual report from this department, which accompanied the President's message, the progress of the negotiation for these works was stated, and the intention expressed to enter into a contract and hasten their completion, as soon as the department became satisfied in regard to the estimates for the same.

After inquiries from all sources which were believed to be capable of affording information, and full consideration of the subject, an offer was made to Messrs. Dakin & Moody to contract with them for the whole of the structures required, at the sum of $1,450,000, which they agreed to accept. But before the terms of the contract were reduced to writing, the House of Representatives adopted a resolution asking whether any contract had been concluded under this law, and whether, in the opinion of the head of this department, a dock without a basin and railway would not be sufficient for naval purposes, and requesting a suspension of further proceedings in

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regard thereto, until the further action of the House. A reply to the resolution was promptly made, a copy of which is annexed, (No. 6.)

The foregoing recital is necessary to a clear comprehension of the act of the last session of Congress on the same subject-matter; the report aforesaid having expressed the opinion that a dock without the basin and railway, but provided with a pier, for working the same, would answer the public necessity.

The act approved March 3, 1851, declared that:

"The Secretary of the Navy is hereby required so to modify the contract alleged to have been made on the seventeenth January last, as to confine the sum to the construction of the floating dock alone, without the basin and railway: *Provided* the contractors will agree to do the work at the estimates made by the department in November and December last: *And provided* the Secretary considers the said estimates fair and reasonable; and so much of said law as authorizes the construction of the basin and railway is hereby repealed: *Provided*, that before making said contract the Secretary of the Navy shall give at least sixty days' notice by advertisement in the usual way."

Assurances were subsequently given by eminent members, and certificates from high officers of both houses of Congress were presented to the department, declaring that the proviso last mentioned, in relation to advertisement, had not received the approbation of Congress, but was found in the law, through a mistake in its enrolment, in the haste incident to the last hours of the session. I did not feel at liberty, however, to reject this clause, even upon such high testimony of the actual fact, but was constrained to regard the enrolled and approved bill as the only evidence of the law.

But perceiving that the clause referred to was repugnant to the preceding part of the enactment, which required the contract already agreed upon to be *modified*, subject only to certain conditions therein set forth, I referred the law to the Attorney General for a construction. His opinion was, that this clause was only intended to operate in the event that the department was not satisfied with the "reasonableness and fairness" of the former estimates; but that if the Secretary were satisfied with these estimates, it was his duty to modify the contract accordingly, with the parties already named.

Thus was again brought up, for review, the estimates in question; and to test them again the subject was now referred, so far as regards the dock, to the engineer-in-chief of the navy, with instructions to consider it carefully, and make a report in detail.

In the first report of the bureau, already mentioned, the dock required was estimated to cost in California $728,301.

In the second report it was estimated to cost at Pensacola, $354,000; upon which were based calculations as to the additions to be made for transportation of materials, and the higher rates of wages for labor in California, with various results.

In the proposition of the department, which was accepted as above stated, by Dakin & Moody, the proportional price for the dock was $610,000.

In the report of the engineer-in-chief, it was estimated at $668,314 01.

The question arose, in the interpretation of the law, what was the estimate actually meant, upon the *fairness* and *reasonableness* of which, in the estimation of the Secretary, was to depend the setting up of the contract to the lowest bidder?

The first estimate of the bureau was made in November, but never re-

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ceived the approbation of the department. The second, pertaining to cost of a like work in Pensacola, was in December; but the only estimate of the department proper was that containing the proposition which was accepted by Dakin & Moody, and in which the proportional part for the cost of the dock was $610,000. This, then, is the only sum answering to the description of an estimate of the department. To suppose that Congress required the Secretary to disregard this, and go back into an inquiry as to the fairness and reasonableness of the first estimate of the bureau, after the parties had once agreed on a sum so much more favorable to the government, is contrary to reason; and to suppose that they had reference to the estimates made for like work at Pensacola, is an absurdity. The obvious meaning of the act, therefore, was, that the former contract was to be modified, so as to provide for building a dock only, provided the Secretary should be of opinion that the price of the dock, in that contract, was fair and reasonable.

Congress, therefore, had not only directed the contract, but fixed the price to be paid, by adopting the former estimate of the department, subject only to be annulled, provided the Secretary believed the amount of price he had once approved to be not "fair and reasonable," on re-investigation.

Believing, from the best lights I could obtain, that this estimate was fair and reasonable, I entered into the contract numbered four, which agrees to pay for the whole work, when completed and delivered, the sum of $610,000. In this sum is, of course, included all compensation for the use of the patent-right.

Pending the reference of the law to the Attorney General, a letter was received from Mr. William Ballard, of the firm of Ballard & Mason, urging that the contract should be let, by advertisement, to the lowest bidder, a copy of which is subjoined, (No. 7.) In a personal interview, the construction given to the law by the Attorney General was explained to this individual, and the determination expressed, to modify the former contract accordingly, provided the estimates of the engineer-in-chief did not fall below the amount formerly agreed on with Messrs. Dakin & Moody.

Shortly thereafter a paper was sent to the department by this firm, entitled "Offer and estimate for the dry dock at California," bearing date April 11, 1851, of which a copy is appended, (No. 8,) and in which proposals are made at $488,000, but without details of the kind, quantity and description of the materials, or other particulars, which would have been required before entertaining a bid, if it had been determined to open the contract to the lowest bidder. The same parties had submitted what they styled a bid for the former contract, after being informed that it was concluded, copy of which is hereto annexed, (No. 9.)

The letters-patent for this dock were issued in the name of John Thomas, the original inventor. Mason & Co. professed to be the owners of this patent by assignment. Dakin & Moody claimed from the same source, but by a prior assignment, and had been in the undisturbed enjoyment of it, in a contract with the government, for four years preceding. Subsequently to this, but before the contract was signed, Mr. William Thomas, of St. Louis, a son of the original inventor, and who claimed that the letters-patent were still in him, assured the department that if the contract should be set up to the lowest bidder, he with responsible associates, would make an offer at a sum not exceeding $[illegible],000, and give security for the fulfil-

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ment thereof. He expected, however, to make use of different materials from those required by the department, and in a subsequent interview admitted that for such a dock as was required, the price agreed to be paid was not too great.

It is not recollected whether, in the various conversations held with other persons on the subject, during the long time it was under investigation, other proposals were not made; but it is not doubted that if the work had been advertised for, bids might have been submitted at a lower amount than even the lowest sum above mentioned. Whether the government would have been a gainer thereby, is more doubtful. But the question presented by these offers was, how far they should induce the head of the department to abandon the duty imposed on him by the law, of determining whether the former estimate for this work was "fair and reasonable." For, until that was determined in the negotiation, there was no power to entertain them. Considered with reference to this question, these offers afforded no other light than the opinions of the persons submitting them.

Relying rather upon the estimates of the responsible officers of the government—and making such abatement from these as I thought just—than upon the proposals of individuals, based on their own calculations of profit to themselves or defeat to an adversary, I was constrained to say that the former estimate of the department, for this work, was fair and reasonable, and entered into the contract as above set forth.

I subjoin, hereunto, a copy of a letter from the aforesaid William Ballard, to the department, (No. 10,) dated May 23, 1851, on this subject, and the reply thereto, dated June 3, 1851, (No. 11.) In further answer to said resolution, I have to state, that a joint board of officers of the army and navy were ordered to the examination of the coast of the Pacific ocean, with reference to defences and military and naval stations, in the year 1848; that a report was made by said board, which was received in the latter part of the year 1850, an extract from which, containing so much as relates to a naval station, is sent herewith, (No. 12.) The department, however, desiring more minute information in relation to the exact position for the dock in question, and a navy-yard on the bay of San Francisco, if Congress shall authorize the same—information which, from the general and extensive nature of the duties required of the former board, could not be expected from them—has directed a new commission, consisting of three naval officers and the engineer of the Bureau of Navy-yards and Docks, to proceed to those waters and make the examination required. These officers are expected to sail from New York by the latter end of the present month.

I am, with the highest respect, your obedient servant,

WILL. A. GRAHAM.

Hon. W. R. KING,
*President of the Senate.*

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*Papers accompanying the reply of the Secretary of the Navy to a resolution of the Senate, adopted February 20, 1852.*

DRY-DOCKS, BASINS, AND RAILWAYS.

No. 1. Contract, construction at Kittery.
2. " " at Philadelphia.
3. " " at Pensacola.
4. " " in California.
5. Report of Chief of the Bureau of Navy-yards and Docks, relati to patent.
6. Reply of the Secretary of the Navy to a resolution of the Hou of Representatives of the 20th January, 1851.
7. Letter of William Ballard to Secretary of the Navy, urging an a vertisement for proposals.
8. Offer and estimate of Ballard and Mason.
9. Former bid of Ballard and Mason.
10. Letter of William Ballard, of May 23, 1851.
11. Reply to William Ballard, of June 3, 1851.
12. Extract from a report relative to an examination of the coast o the Pacific, by a joint commission of navy and engineer officers

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## No. 1.

This agreement, made this eleventh day of November, in the year of our Lord one thousand eight hundred and forty-eight, at the city of Washington, in the District of Columbia, between the government of the United States, by the Secretary of the Navy thereof, the party of the first part, and John S. Gilbert and Zeno Secor, of the city of New York, the parties of the second part, witnesseth: That whereas, by an act of the Congress of the United States, approved August 3d, in the year one thousand eight hundred and forty-eight, entitled "An act making appropriations for the naval service for the year ending the thirtieth day of June, in the year eighteen hundred and forty-nine," in the third section thereof, the Secretary of the Navy is directed forthwith to enter into a contract with Samuel D. Dakin and Rutherford Moody for the complete construction of a sectional dry-dock, or with John S. Gilbert and Zeno Secor for the construction of a balance floating dry-dock; for the complete construction, within a reasonable time from the date of the contract, at the navy-yard at Kittery, of a floating dry-dock, basin, and railways, according to the plans and specifications submitted by the said proprietors of docks to the Navy Department, upon either of the above-mentioned plans the said Secretary may prefer, as best adapted to said navy-yard; the said works to be of the largest dimensions proposed in said plans and specifications; and provided such a contract can be made at a price that shall not exceed by more than ten per cent. the price which has been submitted by the said proprietors respectively to the Navy Department; and in the third section of said act it is further provided, that the Secretary of the Navy shall also, by further contract, enlarge the dimensions of said works to a capacity sufficient for docking war steamers of the largest class, of at least three hundred and

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feet in length, if the dimensions should not be found adequate for that pose; and the Secretary of the Navy in the execution of the aforesaid after mature deliberation thereon, and in consideration that the said ies of the second part will copper-fasten said dock at Kittery, accord- to the specifications for the Pensacola dock, hereto annexed, has deter- ed to select, and does hereby select and adopt, the balance dock, basin railways of Gilbert and Secor, parties of the second part, as best pted for the navy-yard at Kittery:

And whereas the proposals and specifications of the said Gilbert and or, parties of the second part, referred to in the act aforesaid, specify a k, basin and railway at said navy-yard, capable of receiving and raising ip-of-the-line of the first class, of fivet housand three hundred tons dis- cement, and a steam-vessel of three hundred feet long and seventy feet r the guards: and whereas the last proviso in the third section of the aforesaid, makes it the duty of the Secretary of the Navy, by further ntract with the said parties of the second part, to cause the said dock, sin and railway to be enlarged, should the plan and specifications before ferred to not be found adequate for that purpose, to a capacity sufficient docking and hauling on and off the ways war steamers of the largest ass, at least three hundred and fifty feet in length, and, it is understood, breadth in proportion: and whereas the dimensions described in the said plan and specifications submitted by said Gilbert and Secor, parties of the second part, and referred to in said act, are not sufficient, and do not fur- nish such a dock, and basin and railway, as would be adequate to receive and raise, and to haul on and off the ways, war steamers of the largest class, above mentioned: and whereas the Secretary of the Navy has therefore called upon the said Gilbert and Secor, parties of the second part, to sub- mit a plan and specifications of an enlarged dock, basin and railway, of a capacity sufficient to dock war steamers of the class aforesaid, at least three hundred and fifty feet in length and of breadth in proportion; and the said Gilbert and Secor, parties of the second part, have accordingly submitted to him such a plan and specifications, which have been duly considered by the said Secretary, and have been signed by the parties hereto, and have been hereto annexed, marked A, B, C, and D, forming part of this con- tract: Now, therefore, it is mutually understood and agreed by and be- tween the parties to these presents, that the price to be paid for the enlargement of the said dock, basin and railway shall be in proportion to their increased size in area, as compared with the price submitted by the said Gilbert and Secor for said works, in connexion with said first men- tioned plan and specifications, and that ten per cent. on that amount being allowed by said act, and required by said Gilbert and Secor, parties of the second part, shall be added to the said price, that is to say: the price sub- mitted by them in connexion with said first mentioned plan and specifica- tions, referred to in said act, being the sum of two hundred and seventy- five thousand dollars for the dock, and the sum of two hundred thousand dollars for the basin and railway, and in case a floating gate is made to the said basin, the further sum of ten thousand dollars; the price of a dock, basin and railways of the enlarged dimensions embraced in the plan and specifications hereto annexed, of a capacity sufficient to dock and haul on and off the ways a war steamer of the largest class, at least three hundred and fifty feet in length and of a breadth in proportion, the aforesaid price being increased in proportion to the increased area and by the addition of ten per

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cent. to the amount, shall be, for the balance dock four hundred and thirty-seven thousand three hundred and twenty-five dollars, and for the basin and railway, two hundred and eighty-two thousand five hundred and eighty dollars; and for the floating gate to the basin, the sum of thirteen thousand dollars; in all for said dock, basin and railway, and floating gate, complete in all respects, according to the plan and specifications hereto annexed, the sum of seven hundred and thirty-two thousand nine hundred and five dollars.

And the said Gilbert and Secor, parties of the second part, for themselves, their heirs, executors, administrators and assigns, covenant and agree with the said parties of the first part, to construct and complete the said floating dock, basin and railway, and floating gate, together with all the machinery, fixtures and apparatus necessary for successfully working the same, and for shoring and securing vessels of each class aforesaid on the ways, according to the plan and specification hereto annexed, and with the materials specified therein of the best quality, within two years and a half from the first day of November, 1848, to the entire satisfaction of the Secretary of the Navy—the basin to be constructed at such place in the said navy yard as he may select, and the said floating dock to be constructed at or near the said navy yard, and when completed to be delivered and put in said basin.

And the said government of the United States, by the Secretary of the Navy aforesaid, hereby covenants and agrees, to and with the said Gilbert and Secor, the said parties of the second part, their heirs, executors, administrators and assigns, in consideration of the premises, and of the covenants and agreements herein contained, on their part to be performed, to pay to the said Gilbert and Secor, parties of the second part, their heirs, executors, administrators and assigns, the said just and full sum of seven hundred and thirty-two thousand nine hundred and five dollars, in the manner following, namely: When bills certified by the superintending agent on the part of the said party of the first part, approved by the commandant of the said navy yard, shall be presented, showing that one-half of the lowest layer of the platform is laid and fastened, the sum of twenty-three thousand dollars;

That when the lowest layer of the platform is entirely laid and fastened, the further sum of twenty-three thousand dollars;

That when the second or middle layer of the platform is half-down and fastened, the further sum of twenty-three thousand dollars;

That when the second or middle layer of the platform is entirely laid and fastened, the further sum of twenty-three thousand dollars;

That when one-half of the third or upper layer is fastened, the further sum of twenty-three thousand dollars;

That when the third or upper layer is entirely laid and fastened, the further sum of twenty-three thousand dollars;

That when one-half of the whole under surface and four and a half feet high of the sides and ends are coppered, the further sum of twenty-three thousand dollars;

That when that portion of the dock is entirely coppered, the further sum of twenty-three thousand dollars;

That when half of the truss-beams are down and fastened, the further sum of twenty-three thousand dollars;

That when all the truss-beams are down and fastened, the further sum of twenty-three thousand dollars;

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That when half of the frames and trusses are up and fastened, the further sum of twenty-three thousand dollars;

That when all the frames and trusses are up and fastened, the further sum of twenty-three thousand dollars;

That when the dock is launched, the further sum of twenty-three thousand dollars;

That when half of the planking inside and out is on and fastened, the further sum of twenty-three thousand dollars;

That when the planking is entirely on and fastened, the further sum of twenty-three thousand dollars;

That when the caulking and coppering is finished up to twelve feet, the further sum of twenty-three thousand dollars;

That when the caulking and painting is entirely finished, the further sum of twenty-three thousand dollars;

That when the enclosing gates, engines and pumps, are in and finished, the further sum of twenty thousand dollars;

That when the workmen's platform, bilge chocks, centring beams and wall shores are in, the further sum of twenty-three thousand dollars.

The payments on the basin and railway to be made on surveys as near the first day of each month as practicable, but no certificate to be given by the officer of the government for a less amount of work done than twenty thousand dollars.

The said payments to be made by the navy agent at New York, excepting and reserving from each of said payments twenty per cent. on the bills so approved, as security for the faithful performance of the work; and if after the completion and satisfactory trial as herein provided of said work, which said Gilbert and Secor warrant shall successfully dock and haul on and off the ways vessels of either class before named, the said twenty per cent. above reserved and retained, together with the balance remaining unpaid, shall be paid over to them in full.

And it is further mutually understood and agreed, by and between said parties, that no payment be made on this contract, beyond the appropriations now made for said work, until Congress shall have made further appropriations for the same.

And it is further agreed, that all such materials as may have been purchased by order of the Secretary of the Navy, and delivered or to be delivered at said navy yard for said work, shall be received by said Gilbert and Secor, and paid for at the bills of cost thereof, and to be deducted from the payments to be made within the first year of the time herein specified for the completion of the work.

And it is further agreed, that the said works shall be constructed under the supervision of a competent person or civil engineer appointed by the said party of the first part, who shall have power to reject and exclude any materials from said work which are not in accordance with said specifications hereto annexed, either in kind or quality, and who shall see that the said works are constructed in conformity to said plan and specifications hereto annexed.

And it is further agreed, that the said works shall progress in their several stages in the proper ratio of time in proportion to the time specified for the completion thereof, and shall not depart from the said plan and specifications hereto annexed, without authority from the Secretary of the Navy; but if, in the course of the construction of said work, it shall be evident to

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the said Gilbert and Secor that advantageous changes and improvements can be made upon the said plan and specifications, in consequence of the enlargement of the structure or nature of the soil, the said Gilbert and Secor, on submitting said changes and improvements to the Secretary of the Navy, and receiving his sanction thereof, will be authorized to adopt the said changes and improvements, provided that each and every such change and improvement shall be wholly at their cost and expense.

And it is further agreed, that the said party of the first part shall provide the vessel or vessels necessary for the purpose of testing the capacity of said works to dock vessels of the class aforesaid, to the entire satisfaction of the Secretary of the Navy, within three months after the completion of said dock, certified by the superintendent on the part of the United States.

And the said Gilbert and Secor further agree, that in case they shall fail to execute the work herein agreed to be done on their part, and especially if the said dock, basin and railway, after completion, shall prove insufficient to dock successfully vessels of the navy, according to their warranty aforesaid, then the said Gilbert and Secor shall refund to the treasury of the United States the sums of money which may have been paid to them under this contract; and they are to have the privilege of removing the materials which they may have used in the construction of the said dock, basin and railway, but the said materials are not to be removed in such case until the moneys so advanced shall have been refunded; and the said materials are to remain as an additional security for the performance of the contract, and to refund the said money so advanced, in case of failure as aforesaid.

And the said Gilbert and Secor, parties of the second part, do further engage and contract, that no member of Congress, officer of the navy, nor any person holding any office or appointment under the Navy Department, shall have any interest or be in anywise concerned, either directly or indirectly, in any of the issues, profits, or receipts of this contract.

It is further agreed, that the said Gilbert and Secor, parties of the second part, shall, on demand, give the said party of the first part their bond, with sufficient sureties, in the penalty of one hundred thousand dollars, conditioned for the faithful performance, on their part, of this contract.

In testimony of all which agreements and stipulations, the parties above named have hereunto signed their names and affixed their seals this eleventh day of November, anno Domini one thousand eight hundred and forty-eight.

J. Y. MASON, [L. S.]
*Secretary of the Navy.*
JOHN S. GILBERT, [L. S.]
ZENO SECOR, [L. S.]

Signed, sealed, and delivered in the presence of—
WILLIAM G. RIDGELY,
Witness to signatures of J. Y. Mason and John S. Gilbert.
P. M. WETMORE,
Witness to signature of Zeno Secor.

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A.

*Specifications of a balance floating dry dock, to be built of yellow pine, first quality, as may be procurable.*

DIMENSIONS.

We propose to increase the outside dimensions to three hundred and fifty feet (350) in length, and to one hundred and five feet four inches in breadth, the depth being thirty-eight feet three inches. The foundation will be composed of three layers of timbers; the two lower ones will be each one foot square, and each made tight independent of the other. The courses of timber which form the first or lowest layer of the platform will be made in three lengths; the first begins with a piece of 45 feet, then one of 40 feet 4 inches, and then one of 30 feet. The second course begins with a piece of 35 feet, then another of 35 feet, and then one of 45 feet 4 inches. The third course begins with a piece of 60 feet, and then one of 50 feet 4 inches. These dimensions are repeated throughout the length of the dock. They have five feet vertical scarfs, each scarf having $4\frac{7}{8}$ inch copper butt bolts, 2 feet long. Each course is treenailed laterally with $1\frac{3}{8}$ inch locust; the treenails being two feet apart, fox-wedged, and reaching in two feet. Every seam in this platform is made about $\frac{3}{8}$ of an inch outgage and then caulked from above, with wedges of soft wood extending down 4 inches into every seam, making it a water-tight platform. The top of this layer is covered with felt laid in tar. This platform is seen in sheet A, figs. 2 and 5, letter *a*.

FASTENING.

The letter T, throughout the plans and specifications, stands for treenails; the letter B stands for blunt iron bolts; the letter C in black ink, stands for iron clinch and iron screw-bolts; the letter C in red ink, stands for copper bolts.

The next or middle layer runs not transversely as before, but longitudinally; it is composed of scarf-pieces of from thirty to forty-five feet in length, the scarfs in this layer being keyed. Each course is treenailed laterally every two feet, and down through and through with $1\frac{3}{8}$-inch locust, two feet apart, like the first layer; it is then caulked with wedges of soft wood. This course, as well as the one below, is of 12-inch square timber, except ten of the courses, which are 12 inches broad and 18 inches deep, and the middle course, which is 16 inches broad and 24 inches deep; they may be termed keelsons. They jog down into the lower layer three inches along the whole length of the platform, and also project above three inches, (see sheet A, figs. 1 and 5, letter *b*, and sheet C, figs. 17 and 18, letter *e*.) The third or upper layer of timbers are 16 inches deep by 28 inches broad; they are composed of two courses of timber, side by side, each 14 inches broad and 16 inches deep, locked, scarfed, keyed with live oak, 10 keys in each beam, 8 inches square, reaching down through. They are screw-bolted together with inch-iron, one bolt every four feet, and jogged over the said projections of the longitudinal courses; they are placed four feet apart from centres, and bolted down through and through with $\frac{7}{8}$ copper bolts two feet apart and clinched. They form the lower parts of the truss-beam, being Gilbert's patent clamp-bottom, (see sheet A, figs. 3 and 5, letter—.)

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THE THICK WORK.

The sides and ends are built up as far as 8½ feet high, with thick strakes, the lower course all around being 18 inches deep by 12 inches thick, and is copper-bolted with ⅞-inch bolts one foot apart, down through and through the lower courses of the platform, and clinched, (see figs. 1 and 5, letter *f*.)

The next two courses all around of this thick work will be 12×12; the next course will be 12×15, and jogged three inches into the outer ribs; then, again, two courses of 12×12, and one 12×15, jogged in as before. Each of these courses will be bolted down to those below it, with inch iron bolts, three feet apart, extending down three feet, (see sheet A, fig. 5, *g*, *h*, *i*, *j*, and figs. 6 and 13;) the sides and ends thus far up will be caulked inside and out with wedges of soft wood.

The whole under surface and the sides and ends, 4½ feet high, is next covered with felt laid in tar, and sheathed with 32-ounce copper, fastened on with 1½-inch composition nails. The structure may then be launched and built up in the water.

THE TRUSSED FLOOR-TIMBER.

They are made in that form which may be termed double solid truss-beams, the lower truss (see sheet A, figs. 4 and 5, letter *k*) being 16 inches square, the inner ends laying on a chock (*m*) 14 inches deep; this truss rises above the tight platform four feet at the middle line of the dock; the upper one (see sheet A, figs. 4 and 5, letter *k'*) is 16×18 deep, making the depth of dock bottom 7½ feet. They are placed four feet apart from centres, making 87 in the whole length of the dock. Between each truss-beam, and along the middle of the dock, there will be an iron clamp, five inches wide by three-fourths of an inch thick, passing over a keelson formed of four pieces, extending from the platform up to the line of the upper truss, running the whole length of the dock, and halved into the said trusses (see sheet A, fig. 7, letter *i'*.) These bands (see sheet A, figs. 10 and 11, letter *j'*) pass down to the tight platform, and are bolted through the said keelsons with inch-iron screw-bolts, one through each course. Each of the courses which form the keelsons is separately fastened, one upon another, with inch-iron bolts reaching down three feet, except the lower piece, (see sheet A, fig. 17, letter *k'*) which is fastened with ⅞ copper bolts down 20 inches into the tight platform, there being two bolts through each truss-beam, and one between. The several parts of each truss *k'* and *h'*, and the chocks below them, (see sheet A, figs. 3, 4, 5, *m*) will be separately bolted down through the parts below with inch-iron bolts, three feet apart, diagonally, the bolts passing through all the parts down to the tight platform. Two of the beams, each of them 100 feet from the end of the dock, will be caulked, making a tank of 150 feet long across the middle of the dock, (see sketch sheet figure 5.)

OUTER RIBS.

The outer ribs of the sides and ends of the dock chambers are 12×12-inch timber, except the corner posts, which are 24×24-inch, placed one foot apart in the clear, (see sheet A, figs. 5 and 6, letter *n*, and sheet B, fig. 16, letter *n*.) They are hook-tenoned into the ends of the lower

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pieces of the truss-beams, (see sheet A, fig. 9, letter *c*) and fastened with two one-inch iron screw-bolts, passing through the beam and tenon, and are also fastened through the thick work of the sides and ends with 1⅝-inch locust treenails, two in each rib. The thick work is also butt-bolted through and clinched with ⅞-inch copper, four bolts in each scarf. The ribs are also supported at their heels by stringers, (see sheet A, fig. 5, and B, fig. 16, letter *i*) 16 inches square, jogged two inches into each rib, and fastened by two one-inch copper bolts in each truss-beam, reaching down 21 inches into the tight platform.

This outer wall is also supported by a series of five parallel arches, made in two thicknesses of 8×16 inch plank, and jogged into the outer ribs three inches (see sheet A, fig. 5, letter *m'*, and sheet B, fig. 16, letter *m'*;) the lower ends of the arches being jogged into the stringer *l*, and fastened with one iron screw-bolt and two blunt bolts at each end.

The arches are also fastened through the outer ribs with 1¼ locust treenails, one in every alternate rib. Each of the outer ribs, which are cut off by the windows and fastened to thick strakes 12×12, (see sheet A, fig. 5, letter *p*, and sheet B, fig. 16, letter *p*) running along the outside of the dock, with ⅞-inch iron screw-bolt; and that part of the arch which crosses the windows is fastened with screw-bolts of the same size, at distances of three feet apart. One-half of the side outer ribs pass down between the truss-beams to the tight platform, and are dovetailed into the fore and aft stringer *l*, to which they are fastened with one-inch iron bolt, (see sheet A, fig. 9, letter *q*.)

### SLOPING RIBS.

The inner ribs that form the frames of the sloping sides of the chambers are likewise 12×12-inch timber; they start from the tight platform at a distance of 25½ feet from the middle of the dock, and pass up on an angle of forty-five degrees, the upper ends passing between the outer ribs, to which they are fastened with an inch-iron screw-bolt (see sheet A, figs. 5, 8, and 14, letter *r*;) like the latter, they are one foot apart; they are secured at their lower ends to the truss-beams by a hook dovetail, jogged 16 inches into the lower part of the truss-beam (see sheet A, fig. 5, letter *s*;) they have a shoulder of two inches that rests upon the top of the truss-beams, clamping the several parts together; four screw-bolts of inch-iron pass through the dovetails, one through each part of the truss-beams; they are backed at their heels by a stringer (see sheet A, fig. 5, letter *t*) 16 inches square, running along on the top of the truss-beams, within the chambers, fastened with two iron inch-bolts in each truss-beam, reaching down to the platform.

They are also supported in front by stringers (see sheet A, figs. 5 and 14, letter *u*,) 16×24, bolted along the middle compartment of the dock, fastened the same as the other. They are also backed and supported by a sloping stanchion, 12×16, (see sheet A, fig. 5, letter *v*, and sheet D, fig. 19, *v*,) tenoned into the top of the truss-beam and passing up between two of them, supporting them on shoulders of two inches, and fastened by an inch iron screw-bolt reaching through and through two ribs. On each side of the heels and shoulders of these stanchions there are 8×16 inch clamps (see sheet A, figs. 5 and 8, letter *w*, and sheet D, fig. 19, letter *w*) bolted upon the top of the truss-beams, with an inch-iron bolt

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in each beam, and with the same above into the sloping-ribs. These clamps are in lengths of 30 to 50 feet and key-scarfed, the scarf being screw-bolted; they are also fastened to the stanchions by screw-bolts of $\frac{7}{8}$ iron, and passing through and through each of them. There is a system of truss-work connected with these stanchions and stringers, running the whole length of the dock; it is composed of scantling, $6 \times 16$, jogged into the stanchions 2 inches, and bolted together with iron screw-bolts $\frac{7}{8}$ inch, framing passing through and through the trusses and stanchions where they cross. The trusses are keyed up with white-oak wedges upon an oak chock. (See sheet D, fig. 19, letter *x*.)

### UPPER CHAMBERS.

The upper chambers (see sheet A, figs. 5 and 6, letter *y*) are 7 feet 4 inches wide at the top; their frames consist of the outer ribs of the dock, as already described; the inner frame is formed of upright stanchions, $12 \times 12$, (see sheet A, fig. 5, letter *z*, and sheet C, fig. 17, letter *z*;) these stanchions pass up between every alternate sloping rib of the lower chamber; they are tenoned into the trussed beam, the tenon being $8 \times 12$, and fastened by a screw-bolt of inch-iron reaching through the beam. (See sheet A, fig. 5, letter *a*.)

They are also supported on both sides where they pass between the sloping ribs, by clamps $9 \times 16$, (see sheet A, fig. 5, letter *a''*, and sheet C, fig. 17, letter *a''*,) and also by clamps at their heels of $12 \times 16$, (see sheet A, fig. 15, letter *b*, and sheet C, fig. 17, letter *b'*;) the clamps are in lengths of 30 to 60, and key-scarfed; the scarfs being fastened with inch-iron screw-bolts. These clamps are jogged into the stanchions two inches, and fastened by inch-iron screw-bolts passing through each stanchion. The lower clamps, *b'*, are fastened to the truss-beam by two one-inch iron bolts in each beam reaching down to the platform.

Between these upper and lower clamps, and connected with the stanchions, there is a system of truss-work of $8 \times 16$ scantling, jogged into the stanchions two inches, and fastened by inch-iron screw-bolts, passing through where the trusses cross the stanchions; it is keyed up at the ends against oak chocks, (see sheet A, fig. 5, letter *d'*, and sheet C, fig. 17, letter *d'*;) there is a $12 \times 12$ plate, tenoned along the top ends of the stanchions, (see sheet A, fig. 12, letter *e'*,) fastened by two $1\frac{1}{4}$-inch locust treenails passing through each tenon.

There is also a clamp $10 \times 16$ on the back of these stanchions, running along under the sloping ribs; it is screw-bolted through the stanchions and bolted to the sloping ribs with inch-iron, one bolt in each stanchion and rib. (See sheet A, fig. 5 *f'*.)

Between each of these $12 \times 12$ stanchions, there is a stanchion $6 \times 12$, (see sheet C, fig. 17, letter *f''*,) extending from between the clamps (*a''*,) up to the plate (*e*,) of the chambers; it is fastened at its heel with $\frac{7}{8}$ screw-bolts, and is tenoned into the under size of the plate and fastened with a treenail. Each cross frame of the side chambers being thus composed of the outer ribs (*n*,) the sloping ribs (*r*,) and the stanchions of the upper chambers (*z*,) is supported by a $12 \times 12$ inclined stanchion, (see sheet A, fig. 5, letter *g'*,) halved on the side of the truss-beam near its end, and passing up under the sloping rib midway between the two lines of trussing, is fastened with two bolts of inch-iron at both ends.

There are two $12 \times 12$ horizontal beams (see sheet A, fig. 5, letter *h''*,)

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across each frame, and fastened to the outer ribs and to the stanchions of the upper chambers with iron inch-bolts, and extending across the chambers to the inclined stanchions ($g'$,) bracing the lower chambers in two places every four feet along its whole length, as equally distant as the arches and truss work will permit. There will be a $12 \times 12$ beam across the upper chambers, five feet below the deck, fastened with $\frac{7}{8}$-inch iron screw-bolts. (See sheet A, fig. 5, letter $i'$.) There will be eighty-seven of these frames in each of the side chambers.

### TRANSVERSE BULKHEADS IN CHAMBERS.

Across each of the side chambers there are ten tight bulkheads; three of them at each end are 38 feet apart. The main pump-well in the middle of the chamber is 46 feet, and the two smaller pump-wells in each chamber about six feet; these bulkheads are made of 6-inch plank as far up as the lower chambers, and above that height, reaching up to the tops of the chambers, (see sketch sheet X,) 13 of 4-inch plank, fastened to the frames of the lower chambers with $\frac{7}{8}$-inch iron bolts, and above with 10-inch iron spikes. The level of the dock longitudinally is secured by means of these bulkheads, by pumping more or less water from one end of the dock than from the other while the dock is being raised or lowered. No use is made of them generally after it is pumped out. There are openings at the bottoms of the bulkheads, furnished with gates or valves for the passage of water to and from the pump-well. The general arrangement of the bulkheads, valves and pumps in the chambers, and the number of gates in each side chamber, are shown in the sketch sheet X.

All the valves that open outside to admit water into the dock will be of composition; those for the passage of water through the bulkheads to the pump-well will be of mahogany.

There will be eight windows through the upper chambers, 12 feet above the under side of the dock bottom.

The plank on the bottom of the windows will be six inches, fastened with $\frac{7}{8}$-inch iron bolts to beams $8 \times 12$, tenoned into the outside ribs and into the stanchions of the upper chamber, and fastened with inch-iron screw-bolts.

The tops of the windows will be planked with 4-inch plank, fastened on to $6 \times 8$ beams, tenoned into outside ribs and stanchions of the upper chamber.

The sides will be planked with the same thickness and fastened with 9-inch spikes. (See sheet C, fig. 16, letter $h''$, and sketch sheet X, 8.)

### DECK OF CHAMBERS.

The tops of the chambers are decked over with 3-inch plank, the deck beams being $5 \times 8$ scantling, halved together and laid so as to cross diagonally, forming lattice bracing; the deck beams are fastened with $\frac{7}{8}$-inch bolts, and the deck with 8-inch iron spikes. (See sheet A, fig. 12, letter $k''$.)

### PLANKING OF THE DOCK.

The outside ribs are planked up above the thick work with 4-inch plank, and fastened with $1\frac{1}{4}$ treenails through each rib; the treenails are caulked or wedged on the outside. There will be three thick strakes, $12 \times 12$, run-

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ning the whole length of the dock, one at the bottom and one at the top of the windows, and one along the upper ends of the ribs, fastened with $\frac{7}{8}$-inch iron screw-bolts through the ribs, one in each rib, (see sheet A, figs. 5 and 13, letter *p*;) every butt in the planking will have two $\frac{3}{4}$ copper bolts as far up as 12 feet from the bottom of the dock, to which height the whole to be coppered with 32 oz. copper, as before. Above that height the butt-bolts will be of iron. (See planking on sheet A, figs. 5 and 13, letter *p'*.)

The outsides of the upper chambers will be planked with four-inch plank, and fastened in the same manner as above. (See sheet A, fig. 5, letter *r'*.)

The ends of chambers will be planked up with six-inch plank, and fastened with treenails; the same on the sides; copper butt, bolted up to twelve feet. (See sheet A, fig. 6, and sheet B, fig. 16, letter *v'*.)

The sloping ribs are planked up with six-inch plank, alternately with a strake of $12 \times 12$ timber, of such form as to afford a step or altar to place the heels of the shores upon. (See sheet A, figs. 5 and 14, letters *a''* and *b''*.) This planking and the thick strake will be fastened with $1\frac{1}{4}$ treenails passing through the ribs, and $\frac{7}{8}$ iron butt-bolts, two treenails in each sloping rib; in the planking, the thick strakes will have one $\frac{7}{8}$ iron bolt and one treenail in each rib.

All the planking above the thick work will be caulked with new oakum in the ordinary way of caulking new ships of the largest class. The platform for the workmen to stand upon will be of $2\frac{1}{2}$-inch plank, laid on the fore-and-aft beams. (See sheet A, fig. 4, letter *b'''*.) The platform finished is seen at figure 15, letter *k'''*; it will be fastened down with 5-inch spikes.

The dock will be furnished with a floating gate. It may be necessary to shorten the dock with such a gate when a ship-of-the-line, with all her armament on board, is to be taken up. It will be placed forward of the ship, in grooves across the bottom and up the sides of the chambers. It will be eight feet deep from the keel to the deck, and will be of the same form and proportions as that described for the basin. The fastening for this gate will be of iron.

The time which would be required for us to make and present in proper form a detailed estimate of the weight of the various materials to be used in the construction of the balance-dock, would be very great—more, perhaps, than can be allowed us. We therefore give the result of our calculations, without the details. The dock, when ready for use, will weigh five thousand tons net, of two thousand pounds.

As we do not understand it to be the intention of the department to haul ships ashore with their armaments on board, we think the depth of the basin, as now presented by us, will be ample.

### GATES.

There is to be a gate at each end of the dock, made of wood, and so arranged as to open and shut on a hinge extending across the entire length of the gate. (See sheet F, figs. 21, 22, and 25, letter *a*.) This bottom timber of the gate is $18 \times 24$ inches; the lower edge is half round, with the ends entirely rounded so as to pass through a bitt two feet on its face. (See same sheet, fig. 21, letter *b*, and figs. 23 and 27, figure 6, letter *o'*.) The sill-piece upon which the gate rests is $18 \times 18$ inches, the upper edge being hollowed so as to receive the bottom timber of the gate. (See same

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sheet, figs. 24 and 26.) Both this sill-piece and the bitts are fastened to the end of the dock by one-inch copper screw-bolts, eleven bolts in each bitt, and three feet apart in the sill-piece. The frame of the gate will be of stanchions $8 \times 12$, (see same sheet, figs. 20, 22, and 25, letter *d*,) placed fifteen inches apart, reaching up to a line with the lower line of the side windows, 22 feet above the bottom of the dock. The ends of the gates will be on an angle of 45 degrees, the end pieces (see same sheet, figs. 20 and 22, letter *e*) $18 \times 24$ inches. The stanchions are mortised into the lower piece of the gate, and into the slanting end-pieces, the tenons being $8 \times 8$ square, and each fastened with copper-clenched bolts, of $\frac{7}{8}$ inch. (See bottom of figure 25.) The frame is supported by two trusses, one at the top and one at midway down. (See same sheet, figs. 20, 21, and 25, letter *g*.) Each truss is supported by five iron key-bands, 5 inches wide and $\frac{3}{4}$ inch thick, passing around the cord and arch of the truss. (See same sheet, fig. 20, letter *i*.) The ends of the arches and cords are screw-bolted together, (see same sheet, fig. 20, letter *k*,) with three iron bolts, one inch thick. These trusses are supported in their horizontal position by iron braces $1\frac{1}{2}$ inch thick. (See same sheet, fig. 25, letter *k'*.) The gates are planked up with $4 \times 12$ plank, and fastened as far up as twelve feet from the bottom of the dock, with 9-inch composition spikes, two through each plank in every rib, and above with iron spikes, the like number of spikes in each rib. The gate at the forward end of the ship is made to unship by means of a sloat in the bitt. (See same sheet, fig. 27, letter *l*.)

There will be two wicket-gates in each, 18 inches square. (See same sheet, figs. 21 and 22, letter *m*.) The timber which forms the frames of the end of the dock against which the gates close, is two feet square, the corner posts (see sheet A, fig. 6, letter *n*) are rebated to receive the end planking (*n'*) of the dock. The slanting post is also 2 feet square, (see sheet A, fig. 6, letter *r'''*;) it is tenoned into the post *p''*, the tenon being 8 × 8 inches, and reaching in 6 inches. This post (*r''*) extends down to the truss-beam, half of its thickness being cut away, leaving a shoulder of one foot resting on the top of the thick work (*q'*,) to which it is fastened with $1\frac{1}{8}$-inch treenails, two through each thick strake, and one-inch copper bolt is also driven in through each thick strake, two feet long, as it passes down to the truss-beam below. The corners are fastened by oak knees—side 12 inches, 12 inches on the face at the ends, and twenty through the throat, each arm being $5\frac{1}{2}$ feet long, and bolted with $1\frac{1}{8}$ iron bolts, twelve in each knee, reaching into the posts and thick work 22 inches. (The knees are seen on sheet A, fig. 6, letter *r'''*.)

The thick work is dovetailed at the corners of the dock, and each dovetail has a 1-inch copper bolt reaching through the post, and clenched. (See sheet A, fig. 6, letter *q''*.)

J. Y. MASON,
*Secretary of the Navy.*
JOHN S. GILBERT.
ZENO SECOR.

WM. G. RIDGELY,
Witness to the signatures of J. Y. Mason and John S. Gilbert.
P. M. WETMORE,
Witness to the signature of Zeno Secor.



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B.

SPECIFICATIONS FOR BASIN.

The stone basin will be 120 feet wide and 360 feet long, having on three sides, walls of granite masonry 13 feet high, 6 feet thick at the bottom and 3 at top, battening 3 feet in the whole height.

The walls will be built up to low-water mark with split granite; above that height with granite well cut.

The depth of water in this basin, at high water, will be 10 feet over the projecting courses of stone on which the dock is to rest. The foundation of the basin will be formed of round 12-inch piles, driven 4 feet apart and capped with 12×12 timber and 5-inch planking (see sheet G, figs. 40 and 41, letter *a*) secured to them in the firmest manner; the said piles will be driven until a ram weighing 2,200 pounds falling 30 feet will not move them more than half an inch. There will be double this number of piles under the courses of granite projections. (See sheet G, fig. 41, letter *b*.) But if in the construction of the basin, rock shall be found and piling be impracticable, then such other means of securing the foundation shall be adopted as the superintendent on the part of the United States, and the parties of the second part, shall deem the best, and which shall be approved by the Secretary of the Navy. The platform will be caulked with wedges of soft wood; four courses of hewn granite 12×12 will be laid in cement upon the plat formalong the middle of the basin, in the direction of its length. (See sheet G, fig. 39, letter *d*.) Two other courses 12×18 wide (see same sheet and fig., letter *e*) will be laid in the same direction on each side, 20 feet from the central courses, forming level projections or granite stringers on which to rest the dock.

The spaces between the courses of granite and the spaces out to the side-walls are filled with concrete 6 inches deep. There will be three courses of stone across the bottom of the outer end of the basin; the under course (see same sheet and fig., letter *d'*) will be 12 inches thick and form a shoulder for the gate to bear against. The two outer courses (see same sheet and fig., letter *f*) will be 6 inches thick; all these courses will be fastened with $\frac{7}{8}$ copper bolts, two in each stone (see same sheet and fig., letter *f'*) driven down into the timber below. There will be a groove in the outer end of the side-walls of the basin, 2 feet broad and 1 foot deep, to receive the boat-gate. (See same sheet, fig. 39, letter *g*.)

The basin will be enclosed with a boat-gate. This gate is represented in figs. 36, 37, and 38, sheet G. Its depth from the under side of the keel will be 13 feet, its breadth on deck 12 feet, and its length 128 feet, reaching across the mouth of the basin, its ends fitting into the grooves (*g'*, fig. 39) in the side-walls of the basin.

A cross section of this gate is seen at fig. 38, letter *b*, sheet G; the keel will be 2 feet broad by 16 inches deep; the ends or stern-pieces will be 2 feet square, with an apron to back them 18×18 inches; the keelson will be 2 feet broad and 18 inches deep; the ribs will be 12 inches deep and 8 inches broad, placed 2 feet apart and jogged into the keelson. It will be planked up with 4×12 plank; the upper course or gunwale will be 12×24 deep, and in connexion with the deck-beams will form the deck frame.

The ribs will be fastened at their upper ends to this gunwale by inch-iron screw-bolts. The deck frame is seen at fig. 37, letter *i*. The deck beams

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will be 8 inches wide and 10 inches deep; they will be placed 4 feet apart from centres, and cross diagonally; one set of beams crossing another, halved where they cross, the ends being let down flush into the thick gunwale; the deck-plank will be 3 inches by 12. Half way between the deck-beams and the keel there will be beams across of 8 × 8 scantling, resting on clamps running the whole length. (See fig. 38. letter *j*.) There will be a wicket gate of two feet square, so arranged that one man can open and close it; the boat will be treenailed and copper-fastened, as fully as the best merchant-vessels of like tonnage. It will be coppered with 24-oz copper, up to 11 feet, and have all the necessary machinery and rigging for using it.

J. Y. MASON,
*Secretary of the Navy*.
JOHN S. GILBERT.
ZENO SECOR.

Witness to the signatures of J. Y. Mason and Jno S. Gilbert—
WM. G. RIDGELY.
Witness to the signature of Zeno Secor—
P. M. WETMORE.

RAILWAY.

The middle bedway is formed of two courses of timber of 45 and 50 feet lengths, each course being 17 inches wide and 18 inches deep, scarfed and screw-bolted together, so as to form a surface of 34 inches, the depth being 18 inches. (See sheet F, figs. 1 and 5, letter *a*.) The side bedways are formed of two courses of timber 45 and 50 feet lengths, each course being 14 inches wide and 18 inches deep, scarfed and screw-bolted together. They are grubed out so as to form a surface of 2 feet on their faces, with 4-inch flanges above on each side to form guides for the upper ways. (See sheet F, figs. 1, 2, and 5, letters *b*, *b*, *b*.)

The foundations of the bedways on the shore are made by driving two rows of piles 14 inches diameter and 3 feet apart, in the direction of the length of the ways, and capping them with cross-ties 16 × 16 inches, the ties 12 feet apart, and extending across the top of every third set of foundation piles, which are tenoned into them 3 inches. (Figs. 1, 2, and 5, letter *d*.) Two courses of timber 15 inches deep by 17 broad, jogged down into the cross-ties 4 inches, and extending the whole length of the bedways, are next laid to receive the stone-wall. (See figs. 2 and 5, letter *e*.) But if in the construction of the railway, rock should be found and piling be impracticable, then such other means of securing the foundation shall be adopted as the superintendent on the part of the United States and the party of the second part shall deem the best, and which shall be approved by the Secretary of the Navy.

The stone-wall will consist of two or three courses of granite, each block being 34 inches wide on its face, and not less than 6 feet long, the upper and lower sides to be partially levelled or rough-hammered, so as to lie firm in cement. (See figs. 2 and 5, letter *f*.)

The bedways will be cut into the back wall of the basin, so that their upper surfaces will be flush with said wall. They will pass up into the yard on an inclined plane of 1 foot 3 inches to 100 feet.

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The bedways in the floating dock are of the same dimensions as those on the land, will be laid down upon the truss-beams at the outer end of the dock, and will be fastened to a permanent bedding on an inclined plane, rising towards the inner end of the dock 1 foot 3 inches to 100 feet, so as to bring them on a line with those on the shore when the dock is made to rest on the bottom of the basin.

When the bedways of the dock are not under a ship, they will be hauled off with the cradle upon them, on to the shore bedways; the dock being raised so that the lower edge of the bedding under the ways will be on a line with the bedways on shore, (see fig. 7, letter *f*.)

The middle bedway will be fastened down to the timbers *e*, fig. 5, sheet F, with iron bars three-fourths of an inch thick by five inches wide, fastened at their upper ends to the middle bedway, and at their lower ends to the timber *e* of the foundation. These bars will pass between the two thicknesses of the middle bedway down through the stone foundation, and through the middle of the timbers *e*, and fastened with iron keys one inch thick and three inches wide.

The middle upperways of the cradle on which the ship was moved to the shore, is made of two courses of timber 16×17 inches broad; they are screw-bolted together, forming a surface of thirty-four inches, (see figs. 3 and 5, letter *g*.) The sideways are made of two courses of 12 by 16 inches, screw-bolted together, forming a surface of twenty-four inches, (see figs. 3 and 4, letter *h*.) Both the middle and sideways of the cradle are made of sections of about thirty-two feet in length; the sections of the cradle are fastened together by plates of iron two inches thick and six inches wide, by about twelve feet long, passing over the joints (in fig. 3 marked JOINTS,) the plates on one part lapping over those on the other; they are screw-bolted to the ways, being keyed together with iron keys three-fourths of an inch thick, by four inches wide, (see figs. 3 and 4, letter *i*.) The joints in the middle upperway (see fig. 3, letter *j*) are supported by plates ten inches wide by two inches thick, and keyed with iron 1¼ inch thick by six inches wide. Across the top of the cradle-ways are ties (sheet K, figs. 3, 4 and 6) of wood 16×16 inches, placed eight feet apart, locked down over them four inches and fastened with screw-bolts.

Between each of these ties there is one keel block sixteen inches broad by twelve inches deep, placed upon the middle-way of the cradle. On every alternate tie there is placed an ordinary bilge-block, made to slide up to the vessel's bottom, where it is held by a pall working in a cast-iron rack.

These bilge-blocks are also to be used in the floating dock when the cradle is not in use, (see fig. 6, letter *k*.)

There are also braces of wood 12×12 inches, (*m*, fig. 3,) jogged into the side and middle-ways where they are supported by chocks; these braces are jogged up four inches into the ties, as they pass diagonally across from one way to the other.

The cradle is also strengthened with iron rods 1¼ inch in diameter, (*n*, fig. 3,) passing from the middle to the side-ways diagonally, and made to tighten with connecting screw-swivels; where the iron rods are attached to the ways, there are in the plates of iron which fasten the section of the ways together, projections into which the ends of the rods are screwed, (see fig. 3, letter *l*.) The foundation of the basin and railway will be of the most solid construction, according to the nature of the soil. The cradle

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is to be so arranged that it can be removed from under the ship, and replaced without difficulty.

ENGINES, PUMPS, AND OTHER FIXTURES.

The engines, one on each side, (see *a*, sheet H,) will be horizontal and of twenty horse-power, and placed on the guard, (*w'*, fig. 5, sheet A,) a plan of half of which is shown by fig. 16, same sheet.

The boiler (*b*, sheet H) is of the locomotive kind, and placed at one end of the engine, with the furnace on one side. The pumps (*c'*, sheet H) are twenty in number on each side; they are made of plank, five inches thick, and fastened with inch iron screw-bolts, passing through and through all the parts; they are ten feet long, with $18 \times 18$ inches square chambers, and three-feet stroke; sixteen of the pumps will be placed in the main pump-well, directly under the engine, and two of them will be placed in smaller wells adjoining the main well, (see *a'*, sheet H,) for these pumps and small well.

The upper and lower boxes (*e*, sheet H) are to be of composition; the lower one is made to fit the chamber by cork placed in a groove, (*f*) and the upper one is leathered, the ring (*g*) screwing down upon it. The valves are of the kind called butterfly valves; they are also of composition; their form is seen at (*h*.) The guide-rod (*i*) is of iron, and the connecting (*j*) is also of iron.

The gearing and shafting by which the pumps are driven is shown at *k*, the bevelled wheels *l*, the crank wheels *m*, the whole length *o'*, the clutches by which the pumps may be thrown out of gear *p*, section of clutch.

An elevation of one of the crank-wheels and pinions is seen at *q*. At the end of the shaf *n*, is seen the windlass *r*, by which the gates at each end of the dock are opened. The chains by which the gates are opened will be seven-eighths. The forward gate will be hoisted perpendicularly out of the belts by means of this chain and windlass, and then lowered down into the water when a vessel is to be hauled out of the dock, and again hoisted in its place when the dock is sunk to float the vessel. The pump will be so arranged as to pump out the dock, in raising a vessel, with one engine, by means of the conductor, (12) sketch sheet. The engines and boilers, and machinery attached to them, will be enclosed with good houses, extending out to the guard, (*u'*, fig. 5, sheet A.) A section of the outline of the frame of the house is seen at *o'*, fig. 5, sheet A. The combings (*c'*) will be $6 \times 12$ deep, and the stanchions (*d''*) will be 4 by 6 scantling, placed two feet apart; the carlins will be 4 by 4, and the plank of the sides and top will be $1\frac{1}{2}$ white pine. The guard (*e'*) will be of timber $12 \times 12$, and the beams ($a^2$) of the guard-deck will be $6+12$, and the braces ($b^2$) underneath the guards, will be also $6 \times 12$; the deck of the guard will be three inches.

The beams of the guard-deck will be tenoned into the thick strake (*p*) of the dock, and into the guard—the tenon being 4 inches and fastened with $1\frac{1}{4}$ treenails. The braces are to be tenoned into the second thick strake (*p*) and also bolted through into the ribs of the dock. There will be a rail on each side of the dock five feet high. The whole surface of the dock, inside and out, above the lower parts of the windows, will be planed and painted with two coats of lead-color. The dock will be furnished with centring beams, (letter *d'*, fig. 5, sheet A.) It will also be furnished with solid bilge-blocks, (letter *k'*, fig. 6, sheet F.)

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The wale shoring, against the altars, will be furnished in accordance with the plans now in use in the stone dock at Norfolk or Boston. All the gates or valves for the passage of water will be geared, so that one man can open or close them. The dock will be constructed in a workmanlike manner, and furnished with all the machinery for its successful operation.

J. Y. MASON,
*Secretary of the Navy.*
JOHN S. GILBERT.
ZENO SECOR.

Witness to the signatures of J. Y. Mason and J. S. Gilbert—
WILLIAM G. RIDGELY.
Witness to the signature of Zeno Secor—
P. M. WETMORE.

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D.

*Specifications for the hauling apparatus, for moving vessels from the dock to the bedways on shore and back again to the dock, and also of the engine-house.*

The central bedways are to be extended forty feet from the end of the main ways, or 390 feet from the rear of the basin, into the house hereinafter mentioned, built to protect the cylinder and boiler. The extension will be constructed in the same manner as the main way, except that the piles will be driven five feet from centre to centre, and the walls will be laid up with split granite, in hydraulic cement. On the bedways will be placed a hydraulic cylinder of cast iron, (see plan No. 9, at A,) the piston of which is 15 inches in diamater, and the stroke 8 feet. The engines BB, to work the pumps of the cylinder, are placed near each end of the top of the cylinder, and consist of two vertical cylinders, 16 inches diameter and 15 inches stroke, with starting-bars and excentrics; the cross-heads on a slide at right-angles, and turning a shaft on which are the excentrics that work the force-pumps. There are four force-pumps (CC) of 1½ inch diameter and 6 inches stroke.

The connexion between the pumps and hydraulic cylinder will be by means of pipes and valves of suitable size and strength. The boiler (EE) to supply steam to the engines is to be a locomotive boiler, having 85 tubes of 2 inches diameter and 9 feet long, giving a fire surface of 821.89 feet. The boiler is to be supported by a suitable bed-plate of cast-iron, resting on a bedway and connected by suitable rods of iron with the hydraulic cylinder. Under the boiler and on top of the bedways (FF) is placed a reservoir, to furnish water to the boiler, and the pumps of the hydraulic press. The cross-head (G) of the hydraulic press is to be of cast-iron, 57 inches long, 30 inches wide and 18 inches deep. Two side-rods, (H) 4×12, of wrought iron, are to connect the cross-heads with the centre timbers of the cradle on which the ship is to rest, when to be drawn ashore. The side-rods are to be attached to the centre beams by two iron keys, 20 inches wide, 18 inches long, and 4 inches thick. The ends of the side-rods,

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and the centre timbers, are to have a mortise, 20 inches long and 4 inches wide, to receive the key ; the keys are to be 3 and 6 feet from the ends of the centre timbers. Lugs, to connect the hydraulic cylinder with the bedway's lugs, of suitable size, are to be cast on the hydraulic cylinder (K;) and mortises, 8 feet apart, are to be mortised through the bedways, (LL.) The mortises are to be 24 inches long and 6 inches wide. Cast-iron keys, 24 inches wide, 6 inches thick, and 44 inches long, are to be placed in the mortises. Wrought-iron rods, 6 6 inches, and suitably formed to connect with the lugs on the cylinder and the cast-iron keys of the bedways, are to make the connexion between the cylinder and the bedways, (MM.)

The power of the hydraulic press, and the strength of the machinery above described, would be adequate to draw a ship of 5,300 tons. In case it should not be required to move a ship of that weight, the power and strength aforesaid are to be diminished in proportion.

One turn-table is to be constructed near the end of the centre bedway, for the purpose of turning the cylinder around on the ways, (see plan No. —;) to be built in the following manner, viz : piles 12 inches in diameter are to be driven for the foundation, (see plan at FF,) which are cut off 3 feet below mean high tide, and capped with timber 12 inches in thickness, (CT;) and a wall of stone is built up thereon to the same height as the wall of the ways, (G.)

The circle of the table (HH) is to be 10 feet in diameter, and an iron bar, ⅀ 3 inches, is to be laid in a circle on the stone wall, 6 inches from the edges and crossing the centre-way wall. A cast-iron plate is let in the centre of the table, one inch thick and ten inches in diameter, and a journal two inches in diameter inserted through the plate into the stone. The main ways are not laid over the space occupied by the table. Two pieces of oak timber, corresponding in size to the ways, are bolted together, and an iron plate let in and secured in the centre and at each end, at the crossing of the circle. This timber, or short way, is placed on the table, and the journals, on the table, pass up through the centre of the plate and confine it to its position, and allows it to move around the journal on the iron bar and centre plate.

When it is required to turn the cylinder around, to shift its ends, to push a vessel off from the bedway upon the floating dock, it is slid on the table and turned around, as shown in the plan. A house is to be built for the protection of the cylinder and engines, over the centre bedway, 30 feet wide, 46 feet long, and 12 feet high, (see ground plan, LL.) The foundation is to be of cross foundation timber, 4 feet long and 5 inches thick, laid in a trench dug 3 feet below the surface of the yard. On the cross foundation timber, ranging timber, 12 by 20, is laid, and a stone wall is built up thereon, one foot above the level of the ground.

A brick wall eight inches thick is then built up twelve feet in height. The roof is laid to pitch both ways, planked and covered with XX tin. Two windows are to be placed on each side, and a door in front and one on the side, of sufficient size to admit of the passage of the engines and boilers.

Rods of a suitable size will be attached to the cradle-ways, at the upper end, (M) so arranged as to receive keys through the mortises in the bed-

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way, to prevent the ship from slipping back when the hydraulic press is fluted.

J. Y. MASON,
*Secretary of the Navy.*
JOHN S. GILBERT.
ZENO SECOR.

Witness to the signatures of J. Y. Mason and John S. Gilbert—
WILLIAM G. RIDGELY.
Witness to the signature of Zeno Secor—
P. M. WETMORE.

Know all men by these presents, that we, John S. Gilbert and Zeno Secor, as principals, both of the city and State of New York, and Rutherford Moody and James F. Secor, as sureties, of the city and State of New York, are held and firmly bound unto the United States of America, in the just and full sum of one hundred thousand dollars, lawful money of the United States, to be paid to the said United States, or to any person or persons, agent or agents, that may be duly authorized by the Comptroller of the Treasury of the United States, for the time being, to receive the same; to which payment, well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated the fifteenth day of November, anno Domini one thousand eight hundred and forty-eight.

The condition of this obligation is such, that if the above bound John S. Gilbert, Zeno Secor, Rutherford Moody, and James F. Secor, or either of them, their or either of their heirs, executors or administrators, do and shall well and truly execute and fulfil, in all its stipulations, a contract which the said John S. Gilbert and Zeno Secor have entered into with John Y. Mason, Secretary of the Navy, for and in behalf of the United States, for the complete construction of a balance floating dry-dock, with basin, railway and floating gate, at the navy-yard, Kittery, agreeably to their contract, dated the eleventh (11th) day of November, one thousand eight hundred and forty-eight, (1848) for the use of the United States navy, then the above obligation to be void and of none effect, otherwise to be and remain in full force and virtue in law.

JOHN S. GILBERT, [L. S.]
ZENO SECOR, [L. S.]
RUTHERFORD MOODY, [L. S.]
JAMES F. SECOR. [L. S.]

Signed, sealed and delivered in presence of
P. M. WETMORE,
Witness to the signatures of John S. Gibert, Zeno Secor, Rutherford Moody and James F. Secor.

To the best of my knowledge and belief, the sureties named in this bond are good and sufficient.

CHARLES McVEAN,
*United States Attorney.*

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No. 2.

This agreement, made this twenty-fourth day of October, in the year of our Lord eighteen hundred and forty-eight, at the city of Washington, in the District of Columbia, between the government of the United States, by the Secretary of the Navy thereof, of the first part, and Samuel D. Dakin and Rutherford Moody, of the city of New York, in the State of New York, of the other part, witnesseth: That whereas, by an act of the Congress of the United States, approved August 3d, in the year one thousand eight hundred and forty-eight, entitled "An act making appropriations for the naval service for the year ending the thirtieth day of June, in the year eighteen hundred and forty-nine," in the third section thereof, the Secretary of the Navy is directed forthwith to enter into contract with Samuel D. Dakin and Rutherford Moody for the complete construction, within a reasonable time from the date of the contract, of a sectional floating dry-dock, basin and railways at the navy-yard at Philadelphia, according to the plan and specifications submitted by them to the Navy Department; the said works to be of the largest dimensions proposed in said plan and specifications; and provided such contract shall be made at a price that shall not exceed by more than ten per cent. the price which has been submitted by the said Dakin and Moody for floating dry-dock, basin and railways at said navy-yard to the said Navy Department; and in the third section of said act it is further provided, that the Secretary of the Navy shall also, by further contract with said parties, enlarge the dimensions of said works to a capacity sufficient for docking war steamers of the largest class, of at least three hundred and fifty feet in length, if the dimensions above mentioned should not be found adequate for that purpose:

And whereas the proposals and specifications of the said Dakin and Moody, parties of the second part, referred to in the act aforesaid, specify a dock, basin and railways at said navy-yard, capable of receiving and raising a ship-of-the-line of the first class, of five thousand three hundred tons displacement, and a steam-vessel of three hundred feet long and seventy feet over the guards; and whereas the last proviso in the third section of the act aforesaid makes it the duty of the Secretary of the Navy, by further contract with said parties of the second part, to cause the said dock, basin and railways to be enlarged, should the plan and specifications before referred to not be found adequate for that purpose, to a capacity sufficient for docking and hauling on and off the ways steamers of the largest class, at least three hundred and fifty feet in length, and, it is understood, of breadth in proportion: and whereas the dimensions described in the said plan and specifications submitted by said Dakin and Moody, parties of the second part, and referred to in said act, are not sufficient, and do not furnish such a dock, basin and railways as would be adequate to receive and raise, and to haul on and off the ways, war steamers of the largest class above mentioned:

And whereas the Secretary of the Navy has therefore called upon the said Dakin and Moody, parties of the second part, to submit a plan and specifications of an enlarged dock, basin and railways, of a capacity sufficient to dock war steamers of the class aforesaid, at least three hundred and fifty feet in length, and of breadth in proportion; and the said Dakin and Moody, parties of the second part, have accordingly submitted to him such a plan and specifications, which have been duly considered by the said Sec-

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retary of the Navy, and have been signed by the parties hereto, and have been hereto annexed, marked A, B, C, and D, forming a part of this contract: Now, therefore, it is mutually understood and agreed, by and between the parties to these presents, that the price to be paid for the enlargement of the said dock, basin and railways, shall be in proportion to their increased size in area, as compared with the price to be submitted by the said Dakin and Moody for said works, in connexion with said first mentioned plan and specifications, and that ten per cent. on that amount, being allowed by said act, and required by said Dakin and Moody, parties of the second part, shall be added to the said price, that is to say: to the price submitted by them in connexion with said first mentioned plan and specifications referred to in said act, being the sum of two hundred and eighty-one thousand and six hundred dollars for the floating dry-dock, and the sum of two hundred and eighty-seven thousand dollars for the basin and railways; the price of a dock, basin and railways of the enlarged dimensions, embraced in the plan and specifications hereto annexed, of a capacity sufficient to dock and haul on and off the ways a war steamer of the largest class, at least three hundred and fifty feet in length, and of a breadth in proportion, upon the basis aforesaid, increased in proportion to the increased area, and by the addition of ten per cent. on the amount, shall be, for the floating dock, the sum of four hundred and two thousand six hundred and eighty-three dollars; and for the basin and railways, the sum of four hundred and eleven thousand and fifty-nine dollars; in all, for the said dock, basin and railways complete, according to the plan and specifications hereto annexed, the sum of eight hundred and thirteen thousand seven hundred and forty-two dollars.

And the said Dakin and Moody, parties of the second part, for themselves, their heirs, executors, administrators, and assigns, covenant and agree to and with the said party of the first part, to construct and complete the said floating dock, basin and railways, together with all the machinery, fixtures, and apparatus necessary for successfully working the same, and for shoring and securing vessels of each class, aforesaid, on the ways, according to the plan and specifications hereto annexed, and with the materials specified therein, of the best quality, within two years and a half from the first day of November next, to the entire satisfaction of the Secretary of the Navy.

The said basin to be constructed at such place in the said navy yard as he may select, and the said floating dock to be constructed at or near the said navy yard, and when completed to be delivered and put in said basin.

And the said government of the United States, by the Secretary of the Navy aforesaid, hereby covenants and agrees to and with the said Samuel D. Dakin and Rutherford Moody, the said parties of the second part, their heirs, executors, administrators, and assigns, in consideration of the premises and of the covenants and agreements herein contained on their part to be performed, to pay to the said Dakin and Moody, parties of the second part, their heirs, executors, administrators, and assigns, the said just and full sum of eight hundred and thirteen thousand seven hundred and forty-two dollars, in the manner following, namely: when bills certified by the superintending agent on the part of the said party of the first part, approved by the commandant of said navy yard, shall be presented, showing that the main tank and end floats of any section of the floating dock are framed and set up, fastened and bolted, the sum of fifteen thousand dollars for each section;

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That the end frame is raised and bolted, the end floats and main tank planked, and the bulkhead put in, in any section, the further sum of fifteen thousand dollars for each section;

That the machinery is put up and the section completed in any section of 32 feet wide, the further sum of seven thousand five hundred and forty-six dollars and sixty-six cents for each section, and in any section of thirty feet wide, the further sum of five thousand and two hundred dollars;

That one-third of the piles of the coffer-dam are driven, the further sum of twenty thousand dollars;

That two-thirds of the piles of the coffer-dam are driven, the further sum of twenty thousand dollars;

That all of the piles of the coffer-dam are driven, the further sum of fifteeen thousand dollars;

That the coffer-dam is filled and completed, and the water pumped out, the further sum of twenty-five thousand dollars;

That the concrete front wall is put in, the further sum of twenty thousand dollars;

That the basin is excavated, filled, and levelled, the further sum of twenty thousand dollars;

That half of the piles in the bottom of the basin are drivin, the further sum of twenty-five thousand dollars;

That the remaining half of the piles in the bottom of the basin are driven, the further sum of twenty-five thousand dollars;

That those piles are capped, concrete and broken stone put in, and the bottom planked, the further sum of twenty-five thousand dollars;

That one-third of the stone-floor is laid, the further sum of twenty thousand dollars;

That two-thirds of the stone-floor is laid, the further sum of twenty thousand dollars;

That all of the stone-floor is laid, the further sum of twenty thousand dollars;

That one-third of the side-walls are built, the further sum of twenty thousand dollars;

That two-thirds of the side-walls are built, the further sum of twenty thousand dollars;

That all of the side-walls are built, the further sum of twenty thousand dollars;

That the foundation piles for ways are driven and capped, the further sum of fifteen thousand dollars;

That the stone are laid for one way, the further sum of seventeen thousand five hundred dollars;

That the stone are laid for the second way, the further sum of seventeen thousand five hundred dollars;

That all the ways are laid and cradle made, the further sum of twenty thousand dollars;

That the hydraulic cylinder and engines are done and set up, the further sum of twenty-six thousand and fifty-nine dollars;

The said payments to be made by the navy agent at Philadelphia, or New York;

Excepting and reserving from each of said payments, twenty per cent. on the bills so approved, as security for the faithful performance of the work; and after the completion and satisfactory trial, as herein provided, of said

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works, which said Dakin and Moody warrant shall successfully dock and haul on and off the ways, vessels of either class before named, the said twenty per cent. above reserved and retained shall be paid over to them in full.

And it is further mutually understood and agreed, by and between said parties, that no payments shall be made on this contract, beyond the appropriations now made for said works, until Congress shall have made further appropriations for the same.

And it is further agreed, that all such materials as may have been purchased by order of the Secretary of the Navy, and delivered or to be delivered at said navy-yard for said works, shall be received by said Dakin and Moody, and paid for at the bills of cost thereof, and to be deducted from the payments to be made within the first year of the time herein specified for the completion of the works.

And it is further agreed, that the said works shall be constructed under the supervision of a competent person or civil engineer, appointed by the party of the first part, who shall have power to reject and exclude any materials from said works which are not in accordance with said specifications hereto annexed, either in kind or quality, and who shall see that the said works are constructed in conformity to said plan and specifications hereto annexed.

And it is further agreed, that the said works shall progress in their several stages, in the proper ratio of time, in proportion to the time specified for the completion thereof, and shall not depart from the said plans and specifications hereto annexed, without authority from the Secretary of the Navy; but if, in the course of the construction of the said works, it shall be evident to the said Dakin and Moody that advantageous changes and improvements can be made upon the said plans and specifications, in consequence of the enlargement of the structure, the said Dakin and Moody on submitting said changes and improvements to the Secretary of the Navy, and receiving his sanction thereof, will be authorized to adopt said changes and improvements, provided that each and every such change and improvement shall be wholly at their cost and expense. And it is further agreed, that said Dakin and Moody shall have the option to caulk the tanks and floats mentioned in said specifications hereto annexed, with wooden wedges or with oakum, to use horizontal or beam steam-engines on the floating dock, and to transfer the motion from one to another by means of banding or shafting, as they may prefer; and also, at their discretion, to increase the size and fastenings of the truss timbers of the dock, all at their own cost and expense.

And it is further agreed, that the said party of the first part shall provide the vessel or vessels necessary for the purpose of testing the capacity of said works to dock vessels of the class aforesaid, to the satisfaction of the Secretary of the Navy, within three months after the completion of said works, certified by the superintendent on the part of the United States.

And the said Dakin and Moody further agree, that in case they shall fail to execute the work herein agreed to be done on their part, and especially if the said dock, basin and railways, after completion, shall prove insufficient to dock successfully, vessels of the navy, according to their warranty aforesaid, then the said Dakin and Moody shall refund to the treasury of the United States the sums of money which may have been paid to them under this contract, and they are to have the privilege of removing the materials which they may have used in the construction of the said dock,

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basin and railways; but the said materials are not to be removed in such case until the moneys so advanced shall have been refunded, and the said materials are to remain as an additional security for the performance of the contract, and to refund the said money so advanced, in case of failure as aforesaid.

And the said Dakin and Moody, parties of the second part, do further engage and contract, that no member of Congress, officer of the navy, nor any person holding any office or appointment under the Navy Department, shall have any interest or be in anywise concerned, either directly or indirectly, in any of the issues, profits, or receipts of this contract.

It is further agreed that the said Dakin and Moody, parties of the second part, shall, on demand, give to the said party of the first part their bond, with sufficient sureties, in the penalty of one hundred thousand dollars, conditioned for the faithful performance, on their part, of this contract.

In testimony of all which agreements and stipulations, the parties above named have hereunto signed their names and affixed their seals, this twenty-fourth day of October, anno Domini one thousand eight hundred and forty-eight.

J. Y. MASON, [L. S.]
*Secretary of the Navy.*
S. D. DAKIN, [L. S.]
R. MOODY. [L. S.]

Signed, sealed and delivered in the presence of—(the word "five" erased on the second page, and the words "five hundred" on the seventh, and the words "and haul on and off the ways," on the eighth page, interlined before execution)—

WILLIAM G. RIDGELY,
Witness to the signature of J. Y. Mason.
P. M. WETMORE,
Witness to the signatures of S. D. Dakin and R. Moody.

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## A.

*Specifications of a sectional floating dry-dock, basin and two railways, with apparatus and machinery for removing vessels from the dock to the land and back again to the dock, to be constructed at the Philadelphia navy-yard.*

### THE FLOATING DOCK.

The floating dock is to consist of ten sections, each constructed in the same manner. The outside measurement of each is to be as follows, viz: one hundred and forty-seven feet eight inches ($147\frac{8}{12}$) long, and eleven (11) feet deep; six of them to be thirty-two (32) feet wide, and four of them thirty (30) feet wide. The main tank of the six sections is to be one hundred and five (105) feet long, thirty-two (32) feet wide, and eleven (11) feet deep; and the two end floats each to be twenty-six feet and six inches ($26\frac{6}{12}$) long, twenty (20) feet wide, and eight feet and six inches ($8\frac{6}{12}$) deep.

The main tank of the four sections is to be thirty (30) feet wide, and of the same length and depth as in the six sections; and the two end floats to

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be each twenty-four feet six inches ($24\frac{6}{12}$) long, twenty (20) feet wide, and eight feet six inches ($8\frac{6}{12}$) deep.

The sizes of all the timbers, for the frame-work of the dock, are to be the same as marked upon the framing plans sent herewith, marked Nos. 1 and 2; and the frame-work is to be framed and put together in the best manner, and in conformity to those plans. The manner of construction is to be the same in each section, to be as follows, (see plan No. 1,) viz:

The two side-trusses are to be first framed and put together of the best white-oak timber, of the dimensions marked on plan No. 1; two sticks of white-oak, (A) 16×8 inches, are spliced in the centre, so as to make one piece; another stick of white oak, (B) 16×16, is spliced at each end, near the steps of the trusses, to make the same length, and is placed on the top of the first stringer; two pair of trusses, of white-oak timber, one (C) 16×21, and one (D) 16×16, are stepped into the main stringer (B.)

The float-sill (E) is placed on the top of the main stringer, (B) running out to the end float-frame, and bevelled to fit the foot of the truss (C.)

The two stringers, the float-sill and trusses, are then bolted together with half-inch iron screw-bolts, two through each step; they being side by side, one only is shown by the marks on plan No. 1, fig. 1. The top stringer (F) 16×16, is then spliced together with one splice, and bolted with (6) six 1½-inch iron screw-bolts. The short trusses, (G) 12×12, near the end of the truss-frame, and the truss (G J) are placed in position, and the corner posts, (H) 16×18, are framed and halved on to the stringers, and bolted with 1½-inch iron screw-bolts. Mortises are made on the inside of the top and bottom stringers, to receive the top and bottom beams, (I) on ribs 6×14, half of yellow pine and half of white-oak, (see plan No. 2, section on line C D;) and the side ribs, (K) of white-oak, 9×9, are fitted and locked three inches on both edges of the top and bottom stringer and trusses, on the outside of the frame that they cross; (see plan No. 1, fig. 1.) These ribs are each fastened with six 11-inch $\frac{5}{8}$ sq. iron spikes.

The truss-frame is then strapped with two iron bands, (W) 1×6 inch, at the foot of each main truss, and one band of iron, of same dimensions, at the foot of each of the two smaller trusses, and four bands of iron, 1×6 inch, in the centre of the truss-frame; (plan No. 1, fig. 1.) These bands are fastened in the centre with keys and gibs, passing through a stud, 6×16, between the stringers, and holding the bands in place; (plan No. 2, at W.)

The truss-frame being raised to an upright position, and a corresponding truss-frame being made and raised for the opposite side of the section, the top and bottom beams, (I) 6×14, half of yellow pine and half of white-oak, are framed with a double tenon and shoulder, and inserted eighteen (18) inches from centre to centre, in the mortises made in the top and bottom stringers, to receive them, and pinned; (see plan No. 1, fig. 2, and plan No. 2, section on line CD.)

Two centre trusses, of white-oak timber, are framed and set up in their position, as shown in plan No. 2, fig. 3.

The top and bottom keelsons (LL) of these truss-frames are 12×15; the main trusses (M) 8×15, and short trusses (M O) 8×12. For their position and the manner of bolting and locking them together, reference is made to plan No. 2, fig. 3, and section on line B B, of C D. The ties (R) 7×12, are spiked with two iron spikes, 9 inches long and $\frac{7}{8}$ inch square, in each keelson, and one at each crossing of the trusses and end braces.

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One cross truss of white-oak timber is framed within the tank under the keel. For the manner of framing this cross truss and fastening it, and the sizes of the timbers, reference is made to plan No. 2, section on line A B, and cross section D D. The bottom stringer or beam (A C) is 16×16, and halved 6 inches to admit the bottom keelsons, and the ends rest upon the two side stringers (B B) and mortise into a side rib 9×16. The top stringer is 16×24, and mortises into the top side stringers (F F.) The trusses are 12×16 and 6×16 (A E,) and the two (12×16) are fastened with two 1½-inch iron bolts. The studs (A H) 12×16, are also framed in an upright position in this truss. The end corner beams (N) are framed into the side stringers (A B, and F,) and the end studs (A Y) 6×14, of white oak, are framed into the end, top and bottom beams (N) of the main tank, the studs being tenoned into the corner beams (N) and fastened with pins, as shown in plan No. 2.

A double water-tight bulk-head is constructed in the centre of the tank on each side of the interior truss at A G, (see plan No. 2, line D D, section on line A B.) This bulk-head is made of two tiers of white oak plank, standing endways, 4 inches thick, and fitting in a rabbit on the bottom beam (N R) 14×24, and the top truss-beam (A D) 16×24. Each plank is fastened with 7-inch iron spikes, 2 at top and 2 at bottom, to these beams and to each side of the truss, (A E) with two similar spikes in each plank. A space is left in one tier of the plank to allow the water to escape.

Two bulk-heads, made of 2-inch white pine plank, are framed inside of the tank, at equal distances from the centre to the end, and are secured by being spiked to the top and bottom beams with 4-inch iron spikes; and a plank 3×10 inches is fitted between the bulk-head and adjoining beam. Each of the bulk-heads, except the centre one, is provided with a door to admit of passing from one apartment to the next, (see plan No. 2, section on line C D.)

Two connecting-rod posts of white oak 12×12 (see plan No. 1, at Q) are framed on the side truss-frame near each corner of the section, in the same manner as the side ribs. The end corner beams (N) and corner posts (H) are rebated to admit of planking flush with the outside of the posts and beams. The four corners (A H) on the two sides are worked out of yellow pine 12×14, and gained into the side ribs and against the stringers, forming the commencement of the planking and making no joint at the corners, (see plans Nos. 1 and 2, A H.)

The planking on the bottoms of the tank is to be 4 inches thick, on the ends 4 inches thick, on the top 3½ inches thick, and on the sides 5 inches thick; of white oak on the bottom, and the rest of yellow pine; no plank to be used over 12 inches wide, except below the centre of the dock; and below, not over 15 inches wide. On the bottom and ends of the tank, the plank is to be fastened with two iron spikes, 8 inches long and $\frac{7}{16}$ inch square, to each beam at the crossing; for each plank 14 inches wide or less, and for each plank over 14 inches wide, three iron spikes of the same size to each beam at the crossing, and in the same proportion for wider plank.

On the top of the tank, the plank, not over 10 inches wide, is to be fastened with iron spikes, 7 inches long and $\frac{3}{8}$ inch square, driven at the same distance apart and in like manner. On the sides of the tanks, the plank is to be fastened with two iron spikes 10 inches long and $\frac{9}{16}$ inch square in the end of each plank 12 inches wide or less, and three iron spikes of the same size in the end of each plank over 12 inches wide, and

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also one iron spike of same size to every third rib, and two treenails 1¼ inch to each crossing, for each plank 15 inches wide, except where the spikes are driven. The ribs (K) on the sides of the main tank are each to be fastened with two iron spikes 11 inches long and ⅝-inch square at the top and bottom stringers, and also one in the trusses at each crossing, and two in each stud in the float-sill. The main tank having been framed and planked, the end frames are then constructed of yellow pine timber.

For the sizes of the timbers and manner of framing and fastening, reference is made to plans Nos. 1 and 2. The posts (A J) 10×15, on sections like (E F,) are mortised down through the top and bottom stringers, and secured by locust pins. The posts of the adjoining section, (A K) 10×15, are mortised into the float sill E (16×16) close to the end of the section, and halved on and pinned thereto, and bolted to the end beams (N) of the main tank, with two 1½-inch bolts in the beam and two pins in the sill.

The posts (A L) 10×15, in the out end section, on line (H K) are mortised into the float sill, and bolted with one bolt. The pinion posts of white oak, (S S) 10×10, are tenoned into the float sill, and the 12×12 girts (N M) above.

The girt (N M) is mortised to receive the pinion posts, (S S) and halved on and bolted with 1½-inch screw-bolts to the posts (A J, A K, and A L.)

The main brace, 9×16 (A M,) and posts last named, having been halved or boxed at the intersecting points, are then bolted with 1½-inch iron screw-bolts, two at each crossing. The girt, (A N) 8×15, is then halved on to the posts, and fastened at each crossing with 1½-inch iron screw-bolts. The brace, (A O) 9×15, is halved on to the float sill, (E,) and fastened with two 1½-inch iron screw-bolts, and also to posts, (A J) and (A K) with similar bolts.

The brace (A P) is halved on to the floor sill (E) and girt (A N) and bolted with similar bolts.

A corresponding frame is then raised on the truss-frame and float-sill, on the opposite side of the section, and the girts, (A Q,) (see plan No. 2, section on line H K,) 6×12, (A S,) 6×14, (A F,) 10×12, and the four braces 6×7, (see plan,) having been framed and tenoned into their places, and bolted with 1½-inch joint bolts, together with the girts, (A V, A W, and A X,) on section on line (E F,) and the 6×7 braces, the floor-beams, (X X,) 6×12, are laid on the girts, (N M,) and secured by pins. A girder (V V,) 8×12, (see plan No. 2, section on E F and H K,) is then raised and secured by screw-bolts to girts, (A Q and A V,) and supported by a post (W W,) 8×8. A floor (Y Y) is then laid on the floor-beams, of 2-inch white pine plank, jointed together, and secured with two 4-inch spikes at each crossing.

A house is then to be constructed on the top of each end-frame, 7 feet in height, to protect the machinery. The frame work and rafters are of white pine scantling and weather-boards ⅞-inch, white pine boards 6 to 8 inches wide, planed on both sides, matched and grooved, and the roof to be covered with matched 1¼-inch pine plank and XX tin.

A ladder or brace (S, section on line E F) is to be constructed, to go from the deck to the platform, on each end-frame.

### THE END-FLOATS.

There are to be two end-floats on each section, the frames of which are to be of yellow-pine timber. All the corner end-beams (U U) are 12×15;

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all the side beams (U) 11 × 11; all the posts (V) 12 × 12, and are framed together by single mortises, tenons, and shoulders. (See plan No. 2, fig. 5.)

The top and bottom beams, (X) 5 by 9, are tenoned with single mortises into the side corner beams, (U.) The side studs, (X) 5 by 9, are also mortised into the corners, and the end studs are also mortised with single mortises into the end corners.

Two yellow-pine keelsons, (Y Y) 6 by 9, are tenoned into the keelson posts, in the ends of the floats. Studs, (F M) 6 by 6, of yellow pine, are set between the keelsons, three feet apart. The outside corners have a rabbet to admit the plank in flush with the corners. The end-floats are to be covered with 3½-inch yellow-pine plank, fastened with 7-inch wrought iron spikes, ⅝-inch square, two to each beam at the crossing for each plank, 12 inches more or less, and no plank to be used over that width, and on top not over 10 inches wide. The corner posts are secured with iron joint bolts, (see plan No. 2, figs. 4 and 5,) 1½-inch diameter, and the tenons are pinned; right braces, 8 by 8, (O O, plan No. 1,) are framed in each end of the main tank, stepping into a girt, (T T) 12 by 12, and the two centre top and bottom keelsons, (L L.)

The main tank is to be thoroughly caulked, tarred, pitched, and made water-tight; and it is to be sheathed with ⅞-inch white-pine boards, laid lengthwise of the section, fastened with 3-inch zinc nails, one and a half to every superficial foot. The sheathing will then be graved with a coat of tar or pitch.

The end floats are to be thoroughly caulked, tarred, pitched, and made water-tight, and their bottoms, sides, and ends are to be sheathed with ⅞-inch white-pine boards, well-jointed, fastened with 3-inch zinc nails, one and a half to each superficial foot. The sheathing will then be graved with a coat of tar and pitch.

The end floats are then to be rolled into their places between the side posts at the ends of the section. Guides (B B,) 4 × 4, are spiked to the posts (A K and A L) with 8-inch spikes; and guides (L P) 8 × 8 are spiked to the four corners of the floats to guide them in their ascent and descent.

Two pieces of white-oak timber, (C C,) one at each end of the section, 16 × 18, (see plan Nos. 1 and 2,) are fastened to the top of the section, and a mortise is made on each side to receive the tenon of the connecting beams.

Two connecting beams, (see plan No. 1, at 2,) 7 × 16, are to be framed and inserted between the connecting-rod posts (Q Q) under the key, and tenoned into the timbers (C C.) The connecting-rod timbers are secured together by two iron bolts.

There are to be two keel-block timbers, (F F,) 6 × 18, of white oak, laid on side by side, and fastened to the top of the deck with (8) eight 15-inch iron spikes. The four slides for the bilge-blocks to rest upon, (J L,) of white oak, 6 × 12, are placed directly over the trusses, and fastened down with iron spikes 15 inches long and ⅝-inch square, and 4 feet apart. There are to be eight keel-blocks (Z) to each section, 3 feet long and 12 × 18, of white oak, fastened down with iron dogs, two in each end. On their top are to be placed eight blocks of white oak, 2 feet long, 4 by 18 inches, fastened down with iron dogs, two in each.

There are also to be eight bilge-blocks (see plan No. 1, at 5) made of white oak, of the following sizes, viz: three to be 5 feet high, three to be 6 feet high, and two 8 feet high; four to be 5 feet long at the base, and four to be 5½ feet long at the base; and all 1 foot thick at the bottom and



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8 inches at the top, to be secured to the bilge-block timbers by iron guides, (see plan 1, figure 1, at 2,) and to be provided with iron racks bolted to the bilge-slides, 6 inches wide and 1 inch thick, with suitable followers or falls hung at the foot of each block, with hinges and everything complete for working them. Or the bilge-blocks may be constructed on any other plan, not more expensive to us, that may be deemed preferable by the Bureau of Yards and Docks.

The top of the platform, not covered with the houses, is to be protected with zinc. Every part of the dock above the water is to be painted with three coats of oil lead paint. Each section is to be furnished with two air-tubes, (see plan No. 2, at 3,) 7 inches square, of white-pine boards, running from the tank to the platform, with feet and inches marked upon them, to graduate the sinking of the dock, and with two gauge-rods and copper floats (see plan 2, at 4) within them, marked and graduated to show at all times the lifting power exerted by the dock: also, with four wall shores, (see plan 1, figure 1, at 8,) provided with racks and palls, hinges and lines, for working; and also with six composition pumps, of bore 11 inches in diameter, (see plans 1 and 2, figure 1, at 6,) with butterfly valves, and each provided with 1¼-inch iron rod, leading to the cross head and slides, and connecting with the pump-shaft or crank, to which is attached a fly-wheel, moved by a belt running from the main shaft.

Four steam-engines, two of them twenty (20) horse-power each, and two of twelve (12) horse-power each, of the best construction, are to be furnished for driving the machinery.

A composition gate is placed in each end of the main tank, (see plan 2, elevation of end of main tank, at Y Z,) with a connecting rod leading to the platform.

A plug-hole 1½-inch in diameter is made in the bottom of the tank nearly under the scuttle, with a suitable plug and handle, to admit water the first time the dock is sunk.

A scuttle (V B) is placed at each end of the main tank, of sufficient size to admit of passing into the interior, with a ladder leading to the bottom of the tank, provided with an appropriate covering of the same thickness as the planking, and caulked down water-tight.

Each section is also to be provided with all the requisite pump and float machinery and gearing, all to be graduated and arranged with a view to secure such strength and produce such relative motions of the pumps and floats as may be necessary, it not being possible to designate the exact relative sizes of the different parts until those motions are fixed.

All the shafts are to be of wrought-iron of appropriate sizes and bearings, and all cog-wheels, racks, and pinions to be of cast-iron.

The following is a proximate description of the machinery and gearing to be furnished for working the pumps and floats; the sizes being, of course, proximate and subject to be varied according to the motions that may be given, viz: *On the top of each float,* two pinion-shafts 4 inches in diameter; one screw-shaft 3½ inches in diameter; one pinion ditto 4 inches in diameter; four pinions and straps for the same; eight pillow-blocks; one cast-iron frame; one bevel-wheel 9 inches in diameter; one ditto 1 foot and 8 inches in diameter; one endless screw-wheel 6 feet in diameter; one endless screw 9 inches in diameter; two spur-wheels 6 feet in diameter; one ditto 3 feet in diameter. *On the top of each end frame,* one drawing-shaft 3½ inches in diameter, and on the engine sections 3½ inches in diameter; vertical scarfs 2½ inches square; double-pump cranks 3½ inches in diameter;

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single ditto, 3 inches in diameter; one fly-wheel for double pumps, 5 feet diameter, weighing 390 lbs. to 400 lbs.; one fly-wheel for single pumps, 5 feet diameter, weighing 290 to 300 lbs.; four driving-pulleys 2 feet 3 inches in diameter; one spur-wheel 3 feet diameter; two spur-wheels 2 feet diameter; one pinion 1 foot diameter; one bevel-wheel 9 inches in diameter, and one bevel-wheel 1 foot 8 inches in diameter; one cast hollow shaft 3½ inches in bore and $\frac{5}{6}$-inch thick, except the ends, which are 3¼ inches, turned and hooped with wrought-iron, with pillow-blocks, stands, and clutches, for working; all to be made in a very substantial manner.

*Weight of the floating dock.*

| | | |
|---|---|---|
| The displacement of the main tank of the six sections is as follows, viz: Dimensions of the (6) 105×32×11=1,055 tons, or 96 tons to a foot; multiply by 6 | | 6,330 tons. |
| The displacement of the main tank of the four sections is as follows, viz: Dimensions of the (4) 105×30×11=990; multiply by 4 | | 3,960 |
| | | 10,296 |
| The displacement of the end floats is as follows: | | |
| Dimensions of six, 26½×20×5½×6 | 990 tons. | |
| Dimensions of four, 24½×20×5½×4 | 616 | |
| | | 1,606 |
| | | 11,902 |
| Deduct the weight of each section of the large sections, as follows: | | |
| For 6,858 cubic feet of oak timber, 60 lbs. per foot, | 183 tons. | |
| For 5,052 cubic feet of yellow pine, 49 lbs. per foot, | 111 | |
| For 602 cubic feet of white pine, 35 lbs per foot, | 9 | |
| For iron fastenings | 20 | |
| | 323 | |
| Multiply by | 6 | |
| | 1,938 | |
| The weight of the four sections 310×4 | 1,240 | |
| | | 3,178 |
| Clear lifting power of the dock | | 8,724 |

The weight of the timber in the floats is not deducted. They contain 1,798 cubic feet of yellow pine, which amounts to forty tons, equal to the buoyancy of an immersion of $1\frac{3}{12}$ foot. As allowance is made for immersion, and it is not computed in estimating the displacement of the section, it counterbalances the weight of the floats, and need not, of course, be deducted.

J. Y. MASON,
*Secretary of the Navy.*
S. D. DAKIN.
R. MOODY.

Witness: Wm. G. Ridgely.
Navy Department,
*October* 24, 1848.

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B.

*Specifications of a stone basin to be built at the Philadelphia navy yard, on the site located by the chief engineer of the Bureau of Yards and Docks.*

The bottom of the basin is to be (350 feet) three hundred and fifty feet long, and two hundred and twenty-six feet (226 feet) wide, and (12 9/12) twelve and nine-twelfths feet deep from the surface of the floor to the top of the side and end walls, and so constructed as to have (10 9/12) ten and nine-twelfths feet of water in the basin over the floor at mean high tide. (See plan No. 6.)

The manner of construction and materials used are to be as follows: A coffer-dam is first to be constructed around the site of the basin, of sufficient strength to exclude the water during the progress of the works.

A tier of sheet piling of plank is then to be driven across the basin eight feet from the front, leaving a space of eight feet in width between it and the front of the basin along its whole width. Three rows of piles of hemlock, or other timber equally good, 12 by 14 inches in diameter at the butt, are to be driven within that space across the whole width of the basin, four feet from centre to centre, and to be on a line with those to be driven in the central part of the basin; and the said space between the sheet piling and the front of the basin is to be filled in from the bottom of the river to the floor around the piles with broken stone and concrete, forming a substantial wall 8 feet thick in front of the basin. (See plan No. 6, *aa*.) The water is then to be pumped out, and the bottom of the basin to be excavated, filled in, and levelled to the requisite depth for the floor of the basin.

Piles of hemlock, or other timber equally good, 12 to 14 inches in diameter at the butt, are then to be driven in rows four feet from centre to centre over the entire surface of the basin, and an additional row under the side and end walls, as shown in plan No. 7; these piles are to be cut off level at the requisite depth, and to be capped with hemlock timber 12 inches deep, and from 12 to 15 inches wide, and fastened to the piles with treenails, the top of the piles for forty feet from the front being reduced to a certain uniform diameter; and the cap timbers being boxed on two inches, are locked on to their heads. (See plan No. 7.) The space between the caps is to be filled in and levelled off to the top of the caps with broken stone and concrete. The caps are to be covered with four-inch hemlock plank over the whole floor, the plank to be spiked to the caps with iron spikes eight inches long, one at each crossing and two at the butts. The planking is to be extended under the side walls.

This floor is then to be covered with slabs of granite nine inches thick, rough-hammered on the top and edges and laid in hydraulic cement; no stone to be laid that contains less than two superficial feet, and any of the stone to be as much larger as we choose.

For the side walls, foundation timber of hemlock, 8 inches thick and 5 feet wide, is to be laid upon the planking; and for the end or rear walls, foundation timber of hemlock, 12 inches thick and 5 feet wide, is to be laid on the caps; the walls are to be laid on this foundation (12 9/12) twelve feet ten inches high, (5) five feet thick at the bottom, and three feet thick at the top, bevelling back from the front, one inch to the foot, and being reduced by offsets in the rear in each course to diminish the thickness gradually to the top. The walls are to be constructed of granite, split, below ordinary

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low-water mark, and rough-hammered on the face and edges above, and the top course to be rough-hammered on the top, and each stone as wide as the wall. The stone is to be laid in hydraulic cement, in regular courses on each side and end, of such thickness as we may prefer from one to three feet, and the bed to be not less in width than the height of the stone. Each course may be backed up in the rear with one or more thicknesses of stone, but no stone to be used of less thickness than 6 inches (See plan No. 6.) It is understood that the piles are to be driven until a hammer weighing 2,240 pounds falling through thirty feet will drive them but half an inch at a blow.

J. Y. MASON,
*Secretary of the Navy.*
S. D. DAKIN.
R. MOODY.

Witness: WM. G. RIDGELY.

NAVY DEPARTMENT, *October* 24, 1848.

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C.

*Specifications of the bed-ways and sliding-ways.*

THE BED-WAYS.

There are to be two bed-ways constructed, commencing at the rear end of the basin and running back into the yard, in the following manner, viz:

For each bed-way we propose to lay down three ways, (see plan No. 8, at A A A,) one to support the keel, and two to support the bilge—each to be (350) three hundred and fifty feet long, and (26) twenty-six feet wide from outside to outside of the side or bilge-ways. (See plan No. 8, bed-ways, cross section, and elevation.)

The earth is to be excavated to the requisite depth; two rows of hemlock piles, 12 to 14 inches in diameter at the butt, are to be driven under the centre-way, (see P C,) 2½ feet from centre to centre in one line, and three feet from centre to centre in the other line; and two rows under each bilge-way (P B,) of similar piles, are to be driven two feet from centre to centre in one line, and 3½ feet from centre to centre in the other line.

These piles are to be driven until a hammer weighing 2,240 pounds falling through thirty feet will drive them but half an inch at a blow. They are to be cut off level three (3) feet below ordinary high water, and capped with hemlock timber twelve inches thick, (see plan 8, at S S,) the caps of the centre-ways to be dove-tailed to the piles every twelve feet. A cross-tie timber (*a a*) of yellow pine, 16 by 16, is put in every twenty-five feet, locked down three inches on the heads of the piles which they cross, and which are cut off five inches below the level. The top of the cross-tie is then boxed down four inches to admit the caps, which are gained in four inches, and the caps and tie locked together and treenailed.

The tie is supported by one pile between each way, as shown at (P T.)

The walls (T B) under the bilge-ways are built of granite laid in hydraulic cement, three feet thick at bottom, and 2½ feet thick at top, and three feet high.

The wall of the centre-way (T) is also of granite, 3½ feet thick at the bottom, and three-feet thick at the top, and 2½ feet high. The height of

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the centre bed-way wall is to be laid with one course of stone as shown at (T.) The beds and vertical joints, and six inches from the top down on each side, are to be rough-hammered.

The sides below are to be left in their rough split state. The bilge-way walls are to be either in one or two courses of stone; in height at our option, as shown at (T B,) and dressed and laid in the same manner as the centre-way.

The walls are tied together with a stone tie one foot square, placed on the top of the timber-tie every twenty-five feet, and running to the centre of each wall, and dovetailed therein. (See plan 8, C C.)

The top of the wall is to be grooved two inches to admit the bed-ways, as shown on the cross section, plan No. 8, at (T and T B.)

Upon this foundation the bed-ways (A A A) are to be laid, extending 350 feet from the rear of the basin into the yard, and are to be made of white-oak or yellow-pine timber, at our option, in lengths of about five feet each.

The bilge-ways are to be 24 inches wide, 11 inches high on the outer edge, and ten inches on the inner edge. The centre-way is to be thirty-four inches wide, and eighteen inches deep.

Three bed-ways, one centre and two bilge-ways, are to be constructed, to be placed under the ship on the dock, to be connected with the ways laid in the yard, of the same dimensions and materials, except that the centre-way will be but eleven inches deep. The splices of the portion of the ways on the dock, and the side-ways on shore, are made by lapping the timber nine feet, and by a coging four inches thick, secured by four 1¼-inch iron screw-bolts, as shown on the plan at (N N.) The ways are further secured by 1¼-inch iron screw-bolts every ten feet.

The centre-way or hauling beam is strengthened at the splices with an iron bar, 3 by 12 inches, let in and placed on each side, and keyed as shown at M M. It is even with the face of the timber, but shown on the plan on the outside. It is also bolted together with 1¼-inch iron bolts, one in every eight feet.

A keyhole is mortised in every eight feet to admit the keys for holding the hauling arms of the hydraulic cylinder.

### THE SLIDING-WAYS, OR CRADLE.

The sliding-ways (or cradle) are to be made (350) three hundred and fifty feet long, and made partly of white-oak and partly of yellow-pine timber, in 6 or 7 lengths, and 5 or 6 splices. Each way is composed of two pieces of timber, fitted and bolted together, as shown in plan No. 8.

The side-ways are 12 by 24, and the centre way 12 by 34. For the manner of framing, splicing, bracing, and fitting, reference is made to plan No. 8. The cross-beams, 8 by 8 (L,) are placed 17½ feet apart, and have a cast-iron tenon 1 inch thick, fitting into a mortise through an iron bar that is let into the way, as shown in the plan at (L L.)

The braces (K) also have an iron tenon 1 inch thick, that sits into an iron mortise made into the side bar, as shown at (K.) There will be three sets of braces in the cradle, containing four each, making 12 in all.

The sizes of the iron are to be as follows, viz: the two side bars running from the head of the cradle outside of the head braces to a point marked (X,) are 2 by 8 inches. (See plan 8, at F.) An iron bar, 1¼ by 5 inches, is let in flush on the inside of each side-way, (see plan 8, at R,) and runs from a point marked (V) on the side braces to the first splice.

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The iron bars, 1¼ by 5 inches, will run on each side of the centre way, (F) from the head of the cradle to the first splice.

At the first splice the two centre and two side bars are to be 2 by 5 inches for 25 feet in length. (See at F F, plan No. 8.) The four iron bars between the first and second splices are 1¼ by 5 inches, and for 25 feet in the second splice, 2 by 5 inches, (see I I;) between the second and third splices 1 by 5 inches, in the splice 1¼ by 5 inches; between the third and fourth splices ¾ by 5 inches, in the splice 1¼ by 5 inches; between the fourth and fifth splices ¾ by 4 inches, in the splice 1 by 4 inches; between the fifth and sixth splices ¾ by 4 inches, in the splice 1 by 4 inches; and the bars are not to run below the last splice.

The iron bars will be spliced as shown on the plan at (F F) by laps and keys, one splice on each side of the timber splice, at each end of the large bars.

At the first cross-beam at (M) two iron bars, 1¼ by 6 inches, cross the head of the ways and are keyed, the lower one passing through the ways and under the first cross-beam, which is 10 by 14.

Iron rods, one inch in diameter, will run through the ways, by the side of each cross-beam, secured by nut and screw. The iron keys on the plan will be 1 by 10 inches at the head and at the first and second splice, and all after the second splice will be 1 by 6 inches, and all the iron screw-bolts will be one inch. Two-inch cogging is let in between the timbers, as shown on the plan. A guide 4 by 7 is bolted with one-inch bolts, one in every 8 feet, on each side of the centre way, and on the outside of the two side-ways, and riveted together every 5 feet.

The hauling arms connected with the hydraulic cylinder are shown at (Y Y.) All of the several lengths of the timber will be spliced and framed in the same manner as the first and second splices, and ironed as above stated.

The cradle is to be so constructed as to be capable of being readily taken apart and replaced under the ship.

J. Y. MASON,
*Secretary of the Navy.*
S. D. DAKIN,
R. MOODY.

Witness: WILLIAM G. RIDGELY.

NAVY DEPARTMENT, *October* 24, 1848.

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D.

*Specifications of the hauling apparatus for moving the vessels from the sections to the bed-ways on shore, and back again to the sections; and of the engine-house and turn-table.*

The central bed-ways are to be extended (40) forty feet from the end of the main ways, or 390 feet from the rear of the basin into the house hereinafter mentioned, built to protect the cylinder and boiler. The extension will be constructed in the same manner as the main way, except that the piles will be driven five feet from centre to centre, and the walls will be laid up with split granite in hydraulic cement. On the bed-ways will be placed a hydraulic cylinder, of cast iron, (see plan No. 9, at A,) the piston of which is fifteen inches in diameter, and the stroke eight feet. The engines (B B)

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to work the pumps of the cylinder are placed near each end of the top of the cylinder, and consist of two vertical cylinders 16 inches in diameter and fifteen inches stroke, with starting bars and excentrics; the cross-heads on a slide at right-angles, and turning a shaft on which are the excentrics that work the force-pumps. There are to be four force pumps (C C) of 1½-inch diameter and 6-inch stroke. The connexions between the pumps and hydraulic cylinder will be by means of pipes and valves of suitable size and strength. The boiler (E E) to supply steam to the engines is to be a locomotive boiler, having 85 tubes of 2 inches diameter and nine feet long, giving a fire surface of 821.89 feet. The boiler is to be supported by a suitable bed-plate of cast-iron, resting on a bed-way, and connected by suitable rods of iron, with the hydraulic cylinder under the boiler, and on top of the bed-ways (F F) is placed a reservoir to furnish water to the boiler and the pumps of the hydraulic press. The cross-heads (G) of the hydraulic press are to be of cast-iron, 57 inches long, 30 inches wide, and 18 inches deep. Two side-rods (H) 4 by 12, of wrought iron, are to connect the cross-head with the centre timbers of the cradle, (D D) on which the ship is to rest when to be drawn on shore. The side-rods are to be attached to the centre beams by two iron keys (S S) 20 inches wide, 48 inches long, and 4 inches thick. The ends of the side-rods and the centre timbers are to have a mortise 20 inches long, 4 inches wide, to receive the key; the keys are to be three to six feet from the ends of the centre timbers. To connect the hydraulic cylinder with the bed-ways, lugs of suitable size and strength are to be cut on the hydraulic cylinder, (P) and mortises, eight feet apart, are to be mortised through the bedways (L L) The mortises are to be 24 inches long and 6 inches wide; cast-iron keys 24 inches wide, 6 inches thick, and 44 inches long, are to be placed in the mortises; wrought-iron rods 6 by 6 inches, and suitably formed, to connect with the lugs on the cylinder, and the cast-iron keys of the bed-ways, are to make the connexion between the cylinder and the bed-ways (M M.) The ways are to be anchored down by an iron bar running down through the centre of the wall every twenty feet, and secured by an iron key under the cap and in the way. (See plan No. 9, at K K.)

A house is to be built for the protection of the cylinder and engine, over the end of the centre bed-way, 30 feet in width, 40 feet long, and 12 feet high. (See ground plan L L, plan No. 10.) The foundation is to be a course of foundation timber, four feet long and five inches thick, laid in a trench dug three feet below the level of the surface of the ground. On the cross foundation ranging timber 12 by 20 is laid, and a stone wall is built up thereon, one foot above the level of the ground. A brick wall eight inches thick is then built up twelve feet in height. The roof is laid to pitch both ways, planked and covered with XX tin. Two windows are to be placed on each side, and one in each end, and a door in front, and one on each of the sides, of sufficient size to admit of the passage of the engine and boilers.

Two turn-tables are to be constructed, one near the end of each centre bedway, for the purpose of turning round the cylinder on the ways, and removing it from one way to the other, (see plan No. 10) to be made in the following manner, viz: Piles twelve inches in diameter are to be driven for the foundation, (see plan 10, at F F) which are cut off three feet below mean high tide, and capped with timber twelve inches thick, (C F) and a wall of stone built up to the same height as the wall of the ways (G.) The circle of the table (H) is to be ten feet in diameter, and an iron bar three-

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quarters by three inches is to be laid in a circle on the stone wall six inches from the edges, and crossing the centre-way wall. A cast-iron plate is to be in the centre of the table, one inch thick, and ten inches in diameter, and a journal two inches in diameter is inserted through the plate into the stone. The main ways are not laid over the space occupied by the table. Two pieces of white-oak timber, corresponding in size to the ways, are bolted together, and an iron plate let in and secured in the centre and at each end at the crossing of the circle. This timber, or short way, is placed on the table, and the journal in the table passes up through the centre of the plate, and confines it in its position, and allows it to move around the journal on the iron bar and centre plate. When it is required to turn the cylinder around to push a vessel back upon the floating dock, it is slid upon the table and turned around as shown on the plan. A sliding-way is to be constructed, leading from one set of ways to the other, for the purpose of removing the cylinder and engine from one to the other. It is built as follows:

Two rows of piles twelve inches in diameter are driven two feet apart and four feet from centres, (see plan No. 10, at A) and cut off three feet below the surface and capped with timber twelve inches thick, as shown at (B;) on this a wall of split stone is laid (C) in hydraulic cement, to the level of the surface of the ground.

On this foundation two sliding-ways of yellow pine, six by twelve, are laid on a timber blocking, to a level with the main ways, and upon them the cylinder and engine will be transferred from one to the other.

It is understood that all the oak timber named in these specifications is to be of the first quality western white oak.

J. Y. MASON,
*Secretary of the Navy.*
S. D. DAKIN,
R. MOODY.

NAVY DEPARTMENT, *October* 24, 1848.

Know all men by these presents, that we, Samuel D. Dakin and Rutherford Moody, as principals, both of the city and State of New York, and Freeman Campbell and Horatio Allen, as sureties, of the city of New York, in the State of New York, are held and firmly bound unto the United States of America, in the full and just sum of one hundred thousand dollars, lawful money of the United States, to be paid to the said United States, or to any person or persons, agent or agents, that may be duly authorized by the Comptroller of the Treasury of the United States, for the time being, to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals and dated the fourteenth day of November, A. D. one thousand eight hundred and forty-eight.

The condition of the above obligation is such, that if the above bound Samuel D. Dakin and Rutherford Moody, Freeman Campbell and Horatio Allen, or either of them, their or either of their heirs, executors or administrators, do and shall well and truly execute and fulfil, in all its stipulations, a contract which the said Samuel D. Dakin and Rutherford Moody have entered into with John Y. Mason, Secretary of the Navy, acting for and in behalf of the United States, for the complete construction of a sectional floating dry-dock, basin and railways, at the navy-yard, Philadelphia, agreeably to their contract, dated 24th October, 1848, for the use of the

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United States navy, then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

S. D. DAKIN,
RUTHERFORD MOODY,
FREEMAN CAMPBELL,
HORATIO ALLEN.

Signed, sealed, and delivered in presence of—
CHARLES RALFE,
As to F. Campbell and R. Moody.
CHARLES GOULD,
As to S. D. Dakin and Horatio Allen.

To the best of my knowledge and belief, the sureties named in this bond are good and sufficient.

CHARLES McUEAN, *U. S. Attorney.*

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No. 3.

This agreement, made this twenty-fifth day of October, in the year of our Lord one thousand eight hundred and forty-eight, at the city of Washington, in the District of Columbia, between the government of the United States, by the Secretary of the Navy thereof, of the first part, and John S. Gilbert and Zeno Secor, of the city of New York, in the State of New York, of the other part, witnesseth: That whereas, by an act of the Congress of the United States, approved August 3d, in the year 1848, entitled "An act making appropriations for the naval service for the year ending the thirtieth day of June, in the year eighteen hundred and forty-nine," in the third section thereof, the Secretary of the Navy is directed, forthwith, to enter into a contract with John S. Gilbert and Zeno Secor, for the complete construction, within a reasonable time from the date of the contract, of a balance floating dry-dock, basin and railways, at the navy yard at Pensacola, according to the plan and specifications submitted by them to the Navy Department; the said works to be of the largest dimensions proposed in said plan and specifications, and provided the said contract can be made at a price that shall not exceed by more than ten per cent. the price which has been submitted by the said Gilbert and Secor for a floating dry-dock, basin and railway, at said navy yard, to the Navy Department; and in the third section of said act, it is further provided that the Secretary of the Navy shall also, by further contract with said parties, enlarge the dimensions of said works to a capacity sufficient for docking war steamers of the largest class, of at least three hundred and fifty feet in length, if the dimensions above mentioned should not be found adequate for that purpose:

And whereas the proposals and specifications of the said Gilbert and Secor, parties of the second part, referred to in the act aforesaid, specify a dock, basin and railway, at said navy yard, capable of receiving and raising a ship-of-the-line of the first class, of five thousand three hundred tons displacement, and a steam-vessel of three hundred feet long, and seventy feet over the guards: and whereas the last proviso in the third section of the act aforesaid makes it the duty of the Secretary of the Navy, by further contract with said parties of the second part, to cause the said dock, basin and railway, to be enlarged, should the plan and specifications before referred to not be found adequate for that purpose, to a capacity sufficient for docking, and hauling on and off the ways, steamers of the largest class, at

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least three hundred and fifty feet in length, and, it is understood, of breadth in proportion: and whereas the dimensions described in the said plan and specifications submitted by said Gilbert and Secor, parties of the second part, and referred to in said act, are not sufficient, and do not furnish such a dock, basin and railway, as would be adequate to receive and raise, and to haul on and off the ways, war steamers of the largest class above mentioned: and whereas the Secretary of the Navy has, therefore, called upon the said Gilbert and Secor, parties of the second part, to submit a plan and specifications of an enlarged dock, basin and railway, of a capacity sufficient to dock, and haul on and off the ways, war steamers of the class aforesaid, at least three hundred and fifty feet in length, and of breadth in proportion, and the said Gilbert and Secor, parties of the second part, have accordingly submitted to him such a plan and specifications, which have been duly considered by the said Secretary, and have been signed by the parties hereto, and have been hereto annexed, marked A, B, C, and D, forming a part of this contract: Now, therefore, it is mutually understood and agreed by and between the parties to these presents, that the price to be paid for the enlargement of the said dock, basin and railway, shall be in proportion to their increased size in area, as compared with the price submitted by the said Gilbert and Secor for said works in connexion with said first mentioned plan and specifications, and that ten per centum on that amount, being allowed by said act, and required by the said Gilbert and Secor, parties of the second part, shall be added to the said price; that is to say, the price submitted by them in connexion with the said first mentioned plan and specifications referred to in said act, being the sum of four hundred thousand dollars for the floating-dock, if built within one hundred and fifty working days after the date of the contract, or three hundred and seventy thousand dollars if built within twelve months of said date, and the sum of two hundred and fifty thousand dollars for the basin and railway; and in case a floating-gate is made to said basin, the further sum of ten thousand dollars; the price of a dock, basin and railway, of the enlarged dimensions embraced in the plan and specifications hereto annexed, of a capacity sufficient to dock, and haul on and off the ways, a war steamer of the largest class, at least three hundred and fifty feet in length, and of a breadth in proportion, upon the second basis aforesaid, increased in proportion to the increased area, and by the addition of ten per centum in the amount, shall be for the floating-dock the sum of five hundred and fifty-five thousand seven hundred and twelve dollars; and for the basin and railway, three hundred and fifty-three thousand two hundred and twenty-five dollars; and for the floating-gate to the basin, the sum of thirteen thousand dollars; in all for the said dock, basin and railway, and floating-gate, complete, according to the plan and specifications hereto annexed, the sum of nine hundred and twenty-one thousand nine hundred and thirty-seven dollars.

And the said Gilbert and Secor, parties of the second part, for themselves, their heirs, executors, and assigns, covenant and agree, to and with the said party of the first part, to construct and complete the said floating-dock, basin and railway, and floating-gate, together with all the machinery, fixtures, and apparatus necessary for successfully working the same, and for shoring and securing vessels of each class aforesaid on the ways, according to the plan and specifications hereto annexed, and with the materials specified therein of the best quality, within two years and a half from the first day of November next, to the entire satisfaction of the Secretary of the

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Navy; the basin to be constructed at such place in the said navy-yard as he may select; and the said floating-dock to be constructed at or near the said navy-yard, and, when completed, to be delivered and put in said basin.

And the said government of the United States, by the Secretary of the Navy aforesaid, hereby covenants and agrees, to and with the said Gilbert and Secor, the said parties of the second part, their heirs, executors, administrators, and assigns, in consideration of the premises and of the covenants and agreements herein contained, on their part to be performed, to pay to the said Gilbert and Secor, parties of the second part, their heirs, executors, administrators, and assigns, the said just and full sum of nine hundred and twenty-one thousand nine hundred and thirty-seven dollars, in the manner following, namely: when bills, certified by the superintending agent on the part of the said party of the first part, approved by the commandant of the said navy-yard, shall be presented, showing that one-half of the lowest layer of the platform is laid and fastened, the sum of twenty-five thousand dollars;

That when the lowest layer of the platform is entirely laid and fastened, the further sum of twenty-five thousand dollars;

That when the second or middle layer of the platform is half down and fastened, the further sum of twenty-five thousand dollars;

That when the second or middle layer of the platform is entirely laid and fastened, the further sum of twenty-five thousand dollars;

That when one-half of the third or upper layer is fastened, the further sum of twenty-five thousand dollars;

That when the third or upper layer is entirely laid and fastened, the further sum of twenty-five thousand dollars;

That when one-half of the whole under surface, and four and a half feet high of the sides and ends are coppered, the further sum of thirty thousand dollars;

That when that portion of the dock is entirely coppered, the further sum of thirty thousand dollars;

That when half of the truss-beams are down and fastened, the further sum of thirty-five thousand dollars;

That when all the truss-beams are down and fastened, the further sum of thirty-five thousand dollars;

That when half of the frames and trusses are up and fastened, the further sum of thirty-five thousand dollars;

That when all the frames and trusses are up and fastened, the further sum of thirty thousand dollars;

That when the dock is launched, the further sum of thirty thousand dollars;

That when half of the planking inside and out is on and fastened, the further sum of thirty-five thousand dollars;

That when the planking is entirely on and fastened, the further sum of thirty thousand dollars;

That when the caulking and coppering is finished up to twelve feet, the further sum of thirty thousand dollars;

That when the caulking and painting is entirely finished, the further sum of thirty thousand dollars;

That when the enclosing-gates, engines, and pumps are in and finished, the further sum of thirty thousand dollars;

That when the workmen's platform, bilge-chocks, centring-beams, and wale-shores are in, the further sum of thirty thousand dollars.

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The payments on the basin and railway to be made as near the end of each month as practicable; but no certificate to be given by the officer of the government for a less amount of work done than twenty thousand dollars. The said payments to be made by the navy agent at New York.

Excepting and reserving from each of said payments, twenty per centum on the bills so approved, as security for the faithful performance of the work; and after the completion and satisfactory trial, as herein provided, of said works, which said Gilbert and Secor warrant shall successfully dock, and haul on and off the ways, vessels of either class before named, the said twenty per centum above retained and reserved, together with the balance remaining unpaid, shall be paid over to them in full.

And it is further provided, that if the balance-dock, upon trial, fails to perform the camel properties, in transporting vessels of the classes heretofore named, in and out of the harbor, over the bar at Pensacola, the sum of seventy-five thousand dollars of the amount due shall be forfeited by the said Gilbert and Secor, and retained by the government.

And it is further mutually understood and agreed, by and between said parties, that no payments shall be made on this contract beyond the appropriations now made for said works, until Congress shall have made further appropriations for the same.

And it is further agreed, that all such materials as may have been purchased by order of the Secretary of the Navy, and delivered or to be delivered at said navy yard for said works, shall be received by said Gilbert and Secor, and paid for at the bills of cost thereof, and to be deducted from the payments to be made within the first year of the time herein specified for the completion of the works.

And it is further agreed, that said works shall be constructed under the supervision of a competent person or civil engineer, appointed by the party of the first part, who shall have power to reject and exclude any materials from said works which are not in accordance with said specifications hereto annexed, either in kind or quality; and who shall see that the said works are constructed in conformity to said plan and specifications hereto annexed.

And it is further agreed, that the said works shall progress in their usual stages in the proper ratio of time, in proportion to the time specified for the completion thereof, and shall not depart from the said plan and specifications hereto annexed, without authority from the Secretary of the Navy; but if in the course of the construction of said works it shall be evident to the said Gilbert and Secor that advantageous changes and improvements can be made upon the said plan and specifications in consequence of the enlargement of the structure, the said Gilbert and Secor on submitting said changes and improvements to the Secretary of the Navy, and receiving his sanction thereof, will be authorized to adopt the said changes and improvements, provided that each and every such change and improvement shall be wholly at their cost and expense.

And it is further agreed, that the said party of the first part shall provide the vessel or vessels necessary, for the purpose of testing the capacity of said works to dock vessels of the class aforesaid, and test camel properties to the satisfaction of the Secretary of the Navy, within three months after the completion of said works, certified by the superintendent on the part of the United States.

And the said Gilbert and Secor further agree, that in case they shall fail to execute the work herein agreed to be done on their part, and especially

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if the said dock, basin and railway, after completion, shall prove insufficient to dock successfully vessels of the navy, according to their warranty aforesaid, then the said Gilbert and Secor shall refund to the treasury of the United States the sums of money which may have been paid to them under this contract, and they are to have the privilege of removing the materials which they may have used in the construction of the said dock, basin and railway; but the said materials are not to be removed in such case until the moneys so advanced shall have been refunded, and the said materials are to remain as an additional security for the performance of the contract, and to refund the said money as advanced in case of failure as aforesaid.

And the said Gilbert and Secor, parties of the second part, do further engage and contract, that no member of Congress, officer of the navy, nor any person holding any office or appointment under the Navy Department, shall have any interest or be in anywise concerned, either directly or indirectly, in any of the issues, profits or receipts of this contract.

It is further agreed, that the said Gilbert and Secor, parties of the second part, shall, on demand, give to the said party of the first part their bond, with sufficient sureties, in the penalty of one hundred thousand dollars, conditioned for the faithful performance, on their part, of this contract.

In testimony of all which agreements and stipulations, the parties above named have hereunto signed their names and affixed their seals, this twenty-fifth day of October, anno Domini one thousand eight hundred and forty-eight.

J. Y. MASON, [L. S.]
*Secretary of the Navy.*
JOHN S. GILBERT, [L. S.]
ZENO SECOR, [L. S.]

Signed, sealed and delivered in the presence of—
WM. G. RIDGELY,
Witness as to signatures of J. Y. Mason and John S. Gilbert.
P. M. WETMORE,
Witness as to the signature of Zeno Secor.

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## A.

***Specifications of a balance floating dry-dock, to be built of yellow pine, first quality, as may be procurable at Pensacola.***

### DIMENSIONS.

We propose to increase the outside dimensions to three hundred and fifty feet (350) in length, and to one hundred and five feet four inches in breadth, the depth being thirty-eight feet three inches. The foundation will be composed of three layers of timbers; the two lower ones will be each one foot square, and each made tight, independent of the other. The courses of timber which form the first or lowest layer of the platform will be made in three lengths: the first begins with a piece of 45 feet, then one of 40 feet 4 inches, and then one of 30 feet; the second course begins with a piece of 35 feet, then another of 35 feet, and then one of 45 feet 4 inches; the third course begins with a piece of 60 feet, and then one of 50 feet 4 inches. These dimensions are repeated throughout the length of the dock. They have 5-feet vertical lock-scarfs, each scarf having $4\frac{7}{8}$-inch copper butt bolts, 2 feet long. Each course is treenailed

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laterally with $1\frac{3}{8}$-inch locust, the treenails being 2 feet apart, fox-wedged, and reaching in 2 feet. Every seam in this platform is made about $\frac{3}{8}$ of an inch outgauge, and then caulked from above with wedges of soft wood, extending down 4 inches into every seam, making it a water-tight platform. The top of this layer is covered with felt, laid in tar. This platform is seen in sheet A, figs. 2 and 5, letter *a*.

FASTENING.

The letter T throughout the plans and specifications stands for treenails; the letter B stands for blunt iron bolts; the letter C in black ink stands for iron clench and iron screw-bolts; the letter C in red ink stands for copper bolts.

The next or middle layer runs not transversely, but longitudinally; it is composed of scarf-pieces of from 30 to 45 feet in length, the scarfs in this layer being keyed. Each course is treenailed laterally every 2 feet, and down through and through with $1\frac{3}{8}$-inch locust, two feet apart, like the first layer; it is then caulked with wedges of soft wood. This course, as well as the one below, is of 12-inch square timber, except two of the courses, which are 12 inches broad and 18 inches deep, and the middle course, which is 16 inches broad and 24 deep; they may be termed keelsons. They jog down into the lower layer 3 inches along the whole length of the platform, and also project above 3 inches. (See sheet A, figs. 1 and 5, letter *b*, and sheet C, figs. 17 and 18, letter *e*.)

The third or upper layer of timbers are 16 inches deep by 28 inches broad. They are composed of two courses of timber, side by side, each 14 inches broad and 16 inches deep, locked, scarfed, keyed with live oak, ten keys in each beam, 8 inches square, reaching down through. They are screw-bolted together with inch-iron, one bolt every four feet, and jogged over the said projections of the longitudinal courses; they are placed four feet apart from centres, and bolted down through and through with $\frac{7}{8}$-inch copper bolts, 2 feet apart, and clinched. They form the lower parts of the truss-beams, being Gilbert's patent clamp bottom. (See sheet A, figs. 3 and 5, letter —.)

THE THICK WORK.

The sides and ends are built up as far as $8\frac{1}{2}$ feet high, with thick strakes, the lower course, all round, being 18 inches deep by 12 inches thick, and is coppered, bolted with $\frac{7}{8}$-inch bolts, one foot apart, down through and through the lower courses of the platform, and clinched. (See figs. 1 and 5, letter *f*.)

The next two courses, all around, of this thick work, will be 12 by 12, and one 12 by 15, jogged in as before. Each of these courses will be bolted down to those below it, with inch-iron bolts, 3 feet apart, extending down 3 feet. (See sheet A, fig. 5, *g*, *h*, *i*, *j*, and figs. 6 and 13.) The sides and ends, thus far up, will be caulked inside and out with wedges of soft wood.

The whole under surface, and the sides and ends, $4\frac{1}{2}$ feet high, is next covered with felt, laid in tar, and sheathed with 32-ounce copper, fastened on with $1\frac{1}{2}$-inch composition nails; the structure may then be launched and built up in the water.

THE TRUSSED FLOOR-TIMBERS.

They are made in that form which may be termed double solid truss-beams, the lower truss (see sheet A, figs. 4 and 5, letter *k*) being 16 inches

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square, the inner ends lying on a cheek (*m*) 14 inches deep; this truss rises above the light platform 4 feet, at the middle line of the dock; the upper one (see sheet A, figs. 4 and 5, letter *h'*) is 16 by 18 deep, making the depth of the dock bottom 7½ feet. They are placed 4 feet apart from centres, making 87 in the whole length of the dock. Between each truss beam, and along the middle of the dock, there will be an iron clamp band, 5 inches wide by ¾ of an inch thick, passing over a keelson formed of four pieces, extending from the platform up to the line of the upper truss, running the whole length of the dock, and halved into the said truss. (See sheet A, fig. 7, letter *i'*.) These bands (see sheet A, figs. 10 and 11, letter *j'*) pass down to the tight platform, and are bolted through the said keelsons with inch-iron screw-bolts, one through each course. Each of the courses which form the keelsons is separately fastened, one upon another, with inch-iron bolts, reaching down three feet, except the lower piece, (see sheet A, fig. 7, letter *k'*) which is fastened with ⅞ copper bolts, down 20 inches into the tight platform, there being two bolts through each truss-beam and one between.

The several parts of each truss, (*k* and *h'*) and the cheeks below them, (see sheet A, figs. 3, 4, 5, *m*) will be separately fastened down through the parts below, with inch-iron bolts, three feet apart, diagonally, the bolts passing through all the parts, down to the tight platform.

Two of the beams, each of them 100 feet from the end of the dock, will be caulked, making a tank of 150 feet long, across the middle of the dock. (See sketch sheet, (+) letter 5.)

### OUTER RIBS.

The outer ribs of the sides and ends of the dock chambers, 12 by 12-inch timber, except the corner posts, which are 24 by 24-inch timber, one foot apart, in the clear. (See sheet A, figs. 5 and 6, letter *n*, and sheet B, fig. 16, letter *n*.) They are hook-tenoned into the ends of the lower pieces of the truss-beams, (see sheet A, fig. 9, letter *o*) and fastened with two one-inch iron screw-bolts, passing through the beam and tenon, and are also fastened through the thick work of the sides and ends, with 1⅜ locust treenails, two treenails in each rib. The thick work is also butt-bolted through, and clinched with ⅞-inch copper, 4 bolts in each scarf. The ribs are also supported at their heels by stringers (see sheet A, fig. 5, and B, fig. 16, letter *l*) 16 inches square, jogged 2 inches into each rib, and fastened by two one-inch copper bolts in each truss-beam, reaching down 21 inches into the tight platform. This outer wall is also supported by a series of five parallel arches, made in two thicknesses of 8 by 16-inch plank, and jogged into the outer ribs 2 inches, (see sheet A, fig. 5, letter *m'*, and sheet B, fig. 16, letter *m'*) the lower ends of the arches being jogged into the stringer *l'*, and fastened with one iron screw-bolt, and two blunt bolts at each end.

The arches are also fastened through the outer ribs with 1¼ locust treenails, one in every alternate rib. Each of the outer ribs, which are cut off by the windows and fastened to thick strakes, 12 by 12, (see sheet A, fig. 5, letter *p*, and sheet B, fig. 16, letter *p*,) running along the outside of the dock, with a ⅞-inch iron screw-bolt; and that part of the arch which crosses the windows is fastened with screw-bolts of the same size, and at distances of three feet apart. One-half of the said outer ribs pass down between the truss-beams to the tight platform, and are dovetailed into the

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fore-and-aft stringer, (*l*) to which they are fastened with an inch-iron bolt. (See sheet A, fig. 9, letter *q*.)

SLOPING RIBS.

The inner ribs, that form the frames of sloping sides of the chambers, are likewise 12 by 12-inch timber; they start from the tight platform, at a distance of 25½ feet from the middle of the dock, and pass up on an angle of 45 degrees; the upper ends passing between the outer ribs, to which they are fastened with an inch-iron screw-bolt, (see sheet A, figs. 5, 8 and 14, letter *r*.) Like the latter, they are one foot apart; they are secured at their lower ends to the truss-beams by a hook, dovetailed, jogged 16 inches into the lower part of the truss-beam, (see sheet A, fig. 5, letter *s*;) they have a shoulder of 2 inches that rests upon the tops of the truss-beams, clamping its several parts together; four screw-bolts of inch-iron pass through the dovetails, one through each part of the truss-beams; they are backed at their heels by a stringer, (see sheet A, fig. 5, letter *t*,) 16 inches square, running along on the top of the truss-beams within the chambers, fastened with two iron bolts in each truss-beam, reaching down to the platform.

They are also supported in front by stringers, (see sheet A, figs. 5 and 4, letter *u*,) 16 by 24, bolted along the middle compartment of the dock, fastened the same as the other. The are also each backed and supported by a sloping stanchion, 12 by 16, (see sheet A, fig. 6, letter *v*, and sheet D, fig. 19, *v*) tenoned into the top of the truss-beam, and passing up between two of them, supporting them on shoulders of two inches, and fastened by an inch-iron screw-bolt reaching through and through two ribs.

On each side of the heels and shoulders of these stanchions there are 8 by 16-inch clamps, (see sheet A, figs. 5 and 8, letter *w*, and sheet D, fig. 19, letter *w*,) bolted upon the top of the truss-beams with an inch-iron bolt in each beam, and with the same above into the sloping ribs. These clamps are in lengths of 30 to 50 feet, and key-scarfed, the scarf being screw-bolted; they are also fastened to the stanchions by screw-bolts of ⅞ iron, and passing through and through each of them. There is a system of truss-work connected with these stanchions and stringers, running the whole length of the dock; it is composed of scantling 6 by 16, jogged into the stanchions two inches, and bolted together with iron screw-bolts ⅞ inch, framing passing through and through the trusses and stanchions where they cross. The trusses are keyed up with white-oak wedges upon an oak chock. (See sheet D, fig. 19, letter *x*.)

UPPER CHAMBERS.

The upper chambers (see sheet A, figs. 5 and 6, letter *y*) are seven feet four inches wide at the top; their frames consist of the outer ribs of the dock, as already described; the inner frame is formed of upright stanchions 12 by 12, (see sheet A, fig. 5, letter *z*, and sheet C, fig. 17, letter *z*;) these stanchions pass up between every alternate sloping rib of the lower chamber; they are tenoned into the trussed beam, the tenon being 8 by 12, and fastened by a screw-bolt, inch-iron, reaching through the beam. (See sheet A, fig. 5, letter *a'*.) They are also supported on both sides, where they pass between the sloping ribs, by clamps 9 by 16, (see sheet A, fig. 5, letter *a''*, and sheet C, fig. 17, letter *a''*,) and also by clamps at their heels of



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12 by 16, (see sheet A, fig. 5, letter *b'*, and sheet C, fig. 17, letter *b'*;) the clamps are in lengths of 30 to 60 feet, and key-scarfed, the scarfs being fastened with inch-iron screw-bolts.

These clamps are jogged into the stanchions two inches, and fastened by inch-iron screw-bolts passing through each stanchion. The lower clamps (*b'*) are fastened to the truss-beam by two one-inch iron bolts in each beam, reaching down to the platform.

Between these upper and lower clamps, and connected with the stanchions, there is a system of truss-work of 8 by 16 scantling jogged into the stanchions two inches, and fastened by inch-iron screw-bolts passing through where the trusses cross the stanchions; it is keyed up at the ends against oak chocks, (see sheet A, fig. 5, letter *d'*, and sheet C, fig. 17, letter *d'*;) there is a 12 by 12 plate tenoned along the top ends of the stanchions, (see sheet A, fig. 12, letter *e'*,) fastened by two 1¼-inch locust treenails passing through each tenon. There is also a clamp 10 by 16 on the back of these stanchions running along under the sloping ribs; it is screw-bolted through stanchions, and bolted to the sloping ribs with inch-iron; one bolt in each stanchion rib. (See sheet A, fig. 5, *f'*.) Between each of these 12 by 12 stanchions there is a stanchion 6 by 12, (see sheet C, fig. 17, letter *f'*) extending from between the clamps *a''*, up to the plate *e* of the chamber; it is fastened at its heel with ⅞ screw-bolts, and is tenoned into the under side of the plate, and fastened with a treenail. Each cross frame of the side chambers being thus composed of the outer ribs *n*, the sloping ribs *r*, and the stanchions of the upper chamber *z*, is supported by a 12 by 12 inclined stanchion, (see sheet A, fig. 5, letter *g'*,) halved on the side of the truss-beam near its end, and passing up under the sloping rib; midway between the two lines of trussing is fastened with two bolts of inch-iron at both ends. There are two 12 by 12 horizontal beams (see sheet A, fig. 5, letter *h'*) across each frame, and fastened to the outer rib, and to the stanchions of the upper chambers, with iron inch-bolts, and extending across the chambers to the inclined stanchions *g'*, bracing the lower chambers in two places every four feet along its whole length, as equally distant as the arches and truss-work will permit.

There will be a 12 by 12 beam across the upper chambers five feet below the deck, fastened with ⅞-inch iron screw-bolts. (See sheet A, fig. 5, letter *i'*.) There will be eighty-seven of these frames in each of the side chambers.

### TRANSVERSE BULKHEADS IN CHAMBERS.

Across each of the side chambers there are ten tight bulkheads; three o these at each end are thirty-eight feet apart. The main pump-well, in th middle of the chamber, is forty-six feet, and the two smaller pump-well in each chamber about six feet. These bulkheads are made of six-inc plank as far up as the lower chambers, and above that height, reaching u to the top of the chambers, (see sketch sheet X, 13,) of four-inch plank fastened to the frames of the lower chambers with ⅞-inch iron bolts, an above with ten-inch iron spikes. The level of the dock longitudinally i secured by means of these bulkheads, by pumping more or less water fro one end of the dock than from the other, while the dock is being raised o lowered. No use is made of them generally after it is pumped out. The

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are openings at the bottoms of the bulkheads, furnished with gates or valves for the passage of water to and from the pump-well.

The general arrangement of the bulkheads, valves, and pumps in the chambers, and the number of gates in the side chambers, are shown in the sketch sheet X. All the valves that open outside to admit water into the dock, will be of composition; those for the passage of water through the bulkheads to the pump-well, will be of mahogany. There will be eight windows through the upper chambers 12 feet long and 7 feet high, their sills being 22 feet above the under side of the dock bottom.

The plank on the bottom of the windows will be six inches, fastened with $\frac{7}{8}$-inch iron bolts to beams 8 by 12, tenoned into the outside ribs, and into the stanchions of the upper chamber, and fastened with inch-iron screw-bolts. The tops of the windows will be planked with four-inch plank, fastened on to 6 by 8 beams, tenoned into the outside ribs and stranchions of the upper chamber. The sides will be planked with the same thickness, and fastened with nine-inch spikes. (See sheet C, fig. 16, letter *h*″, and sketch sheet X, 8.)

### DECK OF CHAMBERS.

The tops of the chambers are decked over with-three inch plank, the deck beams being 5 by 8 scantling halved together, and laid so as to cross diagonally, forming lattice bracing; the deck beams are fastened with $\frac{7}{8}$-inch bolts, and the deck with 8-inch iron spikes. (See sheet A, fig. 12, letter *k*″.)

### PLANKING OF THE DOCK.

The outside ribs are planked up above the thick work with four-inch plank, and fastened with $1\frac{1}{4}$ treenails, two treenails through each rib; the treenails are caulked or wedged on the outside. There will be three thick strakes, 12 by 12, running the whole length of the dock, one at the bottom and one at the top of the windows, and one along the upper ends of the windows, and one along the upper ends of the ribs, fastened with $\frac{7}{8}$-inch iron screw-bolts through the ribs, one in each rib. (See sheet A, figs. 5 and 13, letter *p*′.) Every butt in the planking will have two $\frac{3}{4}$ copper bolts as far up as twelve feet from the bottom of the dock, to which height the whole is to be coppered with thirty-two ounce copper, as before. Above that height the butt-bolts will be of iron. (See planking on sheet A, figs. 5 and 13, letter *p*′.)

The insides of the upper chambers will be planked with four-inch plank, and fastened in the same manner as above. (See sheet A, fig. 5, letter *r*′.) The ends of the chambers will be planked up with six-inch plank, and fastened with treenails the same on the sides, copper butt-bolted up to twelve feet. (See sheet A, fig. 6, and sheet B, fig. 16, letter *v*′.) The sloping ribs are planked up with six-inch plank alternately, with a strake of 12 by 12 timber, of such form as to afford a step or altar to place the heels of the shores upon. (See sheet A, figs. 5 and 14, letters *a*‴ and *b*″.) This planking and the thick strake will be fastened with $1\frac{1}{4}$ treenails passing through the ribs, and $\frac{7}{8}$ iron butt-bolts, two treenails in each sloping rib; in the planking, the thick strakes will have one $\frac{7}{8}$ iron bolt and one treenail in each rib. All the planking above the thick work will be caulked with new oakum, in the ordinary way of caulking new ships of the largest class.

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The platform for the workmen to stand upon will be of 2½-inch plank, laid on the fore-and-aft beams. (See sheet A, fig. 4, letter *h'''*.) The platform finished is seen at fig. 15, letter *k'''*; it will be fastened down with five-inch spikes.

The dock will be furnished with a floating-gate; it may be necessary to shorten the dock with such a gate when a ship-of-the-line with all her armament on board is to be taken up; it will be placed forward of the ship, in grooves across the bottom and up the sides of the chambers. It will be eight feet deep from the keel to the deck, and will be of the same form and proportions as that described for the basin. The fastening for this gate will be of iron.

The time which would be required for us to make and present, in proper form, a detailed estimate of the weight of the various materials to be used in the construction of the balance dock, would be very great—more, perhaps, than can be allowed us. We therefore give the result of our calculations without the details. The dock, when ready for use, will weigh 5,000 tons net, of 2,000 pounds each.

As we do not understand it to be the intention of the department to haul ships ashore with their armaments on board, we think the depth of the basin, as now presented to us, will be ample.

GATES.

There is to be a gate at each end of the dock, made of wood, and so arranged as to open and shut on a hinge extending across the entire length of the gate. (See sheet E, figs. 21, 22 and 25, letter *a*.) This bottom timber of the gate is eighteen by twenty-four inches; the lower edge is half round, with the ends entirely rounded, so as to pass through a bitt two feet on its face. (See same sheet, fig. 21, letter *b*, and figs. 23 and 27, fig. 6, letter *o'*.) The sill-piece upon which the gate rests is eighteen by eighteen inches, the upper edge being hollowed so as to receive the bottom timber of the gate. (See same sheet, figs. 24 and 26.) Both this sill-piece and the bitts are fastened to the end of the dock by one-inch copper screw-bolts, eleven bolts in each bitt and three feet apart in the sill-piece. The frame of the gate will be of stanchions 8 by 12, (see same sheet, figs. 20, 22 and 25, letter *d*) placed fifteen inches apart, reaching up to a line with the lower line of the side windows, twenty-two feet above the bottom of the dock.

The ends of the gates will be on an angle of about forty-five degrees; the end pieces (see same sheet, figs. 20 and 22, letter *e*) are eighteen by twenty-four inches; the stanchions are mortised into the lower piece of the gate, and into the slanting end pieces, the tenons being 8 by 8 square and each fastened with copper clinched bolts of ⅞ inch. (See bottom of fig. 25.) The frame is supported by two trusses, one at the top and one midway down. (See same sheet, figs. 20, 21 and 25, letter *g*.) Each truss is supported by five iron key-bands, five inches wide and ¾ inch thick, passing around the cord and arch of the truss. (See same sheet, fig. 20, letter *k*.) The ends of the arches and cords are screw-bolted together (see same sheet, fig. 20, letter *k*) with three iron bolts one inch thick. These trusses are supported in their horizontal position by iron braces 1¼ inch thick. (See same sheet, fig. 25, letter *k'*.) The gates are planked up with 4 by 12-inch plank, and fastened as far up as twelve feet from the bottom of the dock with nine-inch composition spikes, two through each plank in every

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rib, and above with iron spikes, the like number of spikes in each rib. The gate at the forward end of the ship is made to unship by means of a sloat in the bitt. (See same sheet, fig. 27, letter *l*.)

There will be two wicket gates in each, 18 inches square. (See same sheet, figs. 21 and 22, letter *m*.) The timber which forms the frames of the end of the deck, against which the gates close, is two feet square; the corner post (see sheet A, fig. 6, letter *n*) is rebated to receive the end planking ($v'$) of the deck. The slanting post is also two feet square, (see same sheet A, fig. 6, letter $r''$;) it is tenoned into the post, ($p''$) the tenon being 6 by 8 inches, and reaching in six inches; this post ($r''$) extends down to the truss-beam, half of its thickness being cut away, leaving a shoulder of one foot resting on the top of the thick work, ($q'$) to which it is fastened with $1\frac{3}{8}$-inch treenails, two through each thick strake, and one-inch copper bolt is also driven in through each thick strake two feet long, as it passes down to the truss-beam below. The corners are fastened by oak knees, side 12 inches, 12 inches on the face at the ends, and 20 through the throat, each arm being five and a half feet long, and bolted with $1\frac{1}{8}$ iron bolts, 12 in each knee, reaching into the posts and thick work 22 inches. The knees are seen on sheet A, fig. 6, letter $r'''$. The thick work is dovetailed at the corners of the dock, and each dovetail has a one-inch copper bolt reaching through the post and clinched. (See sheet A, fig. 6, letter $q''$.)

J. Y. MASON,
*Secretary of the Navy.*
JOHN S. GILBERT,
ZENO SECOR.

WM. G. RIDGELY,
Witness to the signatures of J. Y. Mason and Jno. S. Gilbert.
P. M. WETMORE,
Witness to the signature of Zeno Secor.

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B.

*Specifications for basin.*

The stone basin will be 120 feet wide and 365 feet long, having on three sides, walls of granite masonry 13 feet high, six feet thick at bottom, and three at top, battering three feet in the whole height. The walls will be built up to low-water mark with split granite—above that height with granite well cut. The depth of water in this basin at high water, will be 10 feet over the projecting courses of stone on which the dock is to rest.

The foundation of the basin will be formed of round 12-inch piles, driven four feet apart, and capped with 12 by 12 timber and 5-inch planking, (see sheet G, figs. 40 and 41, letter *a*,) secured to them in the firmest manner; the said piles will be driven until a ram of 2,200 pounds falling 30 feet will not move them more than half an inch. There will be double this number of piles under the courses of granite projections. (See sheet G, fig. 41, letter *b*.)

The platform will be caulked with wedges of soft wood; four courses of hewn granite, 12 by 12, will be laid in cement upon the platform, along the middle of the basin in the direction of its length. (See sheet G, fig. 39, letter *d*.) Two other courses, 12 by 18 wide, (see same sheet and fig., letter

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e,) will be laid in the same direction on each side 20 feet from the central courses, forming level projections or granite stringers, on which to rest the dock. The spaces between the courses of granite and the spaces out to the side walls are filled with concrete six inches deep. There will be three courses of stone across the bottom at the outer end of the basin; the inner courses (see same sheet and fig., *d'*) will be 12 inches thick, and form a shoulder for the gate to bear against. The two outer courses (see same sheet and fig., letter *f*) will be six inches thick. All these courses will be fastened with $\frac{7}{8}$ copper bolts, two in each stone, (see same sheet and fig., letter *f'*,) driven down into the timber below.

There will be grooves in the outer end of the side-walls of the basin, two feet broad and one foot deep, to receive the boat-gate. (See same sheet, fig. 39, letter *g*.) The basin will be enclosed with a boat-gate. This gate is represented in figs. 36, 37, and 38, sheet G. Its depth from the under side of the keel will be 13 feet, its breadth on deck 12 feet, and its length 128 feet, reaching across the mouth of the basin, its ends fitting into the grooves *g*, fig. 39, in the side-walls of the basin. A cross-section of this gate is seen at fig. 38, letter *h*, sheet G. The keel will be two feet broad by 16 inches deep; the ends or stern pieces will be two feet square, with an apron to back them 18 by 18 inches; the keelson will be two feet broad and 18 inches deep; the ribs will be 12 inches deep and 8 inches broad, placed 2 feet apart, and jogged into the keelson. It will be planked up with 4 by 12 plank; the upper course or gunwale will be 12 by 12 deep, and, in connexion with the deck-beams, will form the deck frame.

The ribs will be fastened at their upper ends to this gunwale, by inch-iron screw-bolts; the deck frame is seen at fig. 37, letter *i*. The deck-beams will be 8 inches wide and 10 inches deep; they will be placed four feet apart from centres and cross diagonally, one set of beams crossing another, halved when they cross, the ends being let down flush into the thick gunwale; the deck plank will be 3 inches by 12. Half way between the deck-beams and the keel, there will be beams across of 8 by 8 scantling, resting on clamps running the whole length. (See fig. 38, letter *j*.) There will be a wicket gate of two feet square, so arranged that one man can open and close it; the boat will be treenailed and copper-fastened as fully as the best merchant vessels of like tonnage.

It will be coppered with twenty-four ounce copper up to eleven feet, and have all the necessary machinery and rigging for using it.

J. Y. MASON,
*Secretary of the Navy.*
JOHN S. GILBERT,
ZENO SECOR.

WM. G. RIDGELY,
Witness to the signatures of J. Y. Mason and John S. Gilbert.
P. M. WETMORE,
Witness to the signature of Zeno Secor.

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C.

*Railway.*

The middle bed-way is formed of two courses of timber of 45 and 50 feet lengths, each course being 17 inches wide and 18 inches deep, scarfed and screw-bolted together, so as to form a surface of 34 inches, the depth being 18 inches. (See sheet F, figs. 1 and 5, letter *a*.) The side bed-ways are formed of two courses of timber, 45 and 50 feet lengths, each course being 14 inches wide and 18 inches deep, scarfed and screw-bolted together. They are grubed out so as to form a surface of two feet on their faces, with 4-inch flanges above on each side, to form guides for the upper ways. (See sheet F, figs. 1, 2 and 5, letters *b b b*.) The foundation of the bed-ways on the shore is made by driving two rows of piles, 14 inches diameter and three feet apart, in the direction of the length of the ways, and capping them with cross-ties 16 × 16 inches, the ties twelve feet apart, and extending across the top of every third set of foundation piles, which are tenoned into them three inches, (figs. 1, 2 and 5, letter *d*.) Two courses of timber, 15 inches deep by 17 broad, jogged down into the cross-ties 4 inches, and extending the whole length of the bed-ways, are next laid to receive the stone wall. (See figs. 2 and 5, letter *e*.) The stone wall will consist of two or three courses of granite, each block being 34 inches wide on its face, and not less than 6 feet long, the upper and lower sides to be partially levelled or rough-hammered, so as to lie firm in cement. (See figs. 2 and 5, letter *f*.)

The bed-ways will be cut into the back wall of the basin, so that their upper surfaces will be flush with the said wall; they will pass up into the yard on an inclined plane of one foot three inches to one hundred feet. The bed-ways on the floating dock are of the same dimensions as those on the land, will be laid down upon the truss-beams at the outer end of the dock, and will be fastened to a permanent bedding on an inclined plane rising towards the inner end of the dock, one foot three inches to one hundred feet, so as to bring them on a line with those on the shore, where the dock is made to rest on the bottom of the basin.

When the bed-ways of the dock are not under a ship, they will be hauled off, with the cradle upon them, on the shore bed-ways, the docks being raised so that the lower edge of the bedding under the ways will be on a line with the bed-ways on shore. (See fig. 7, letter *f*.)

The middle bed-way will be fastened down to the timbers, (fig. 5, sheet F) with iron bars three-fourths of an inch thick by 5 inches wide, fastened at their upper ends to the middle bed-way, and at their lower ends to the timber *e* of the foundation. These bars will pass between the two thicknesses of the middle bed-way down through the stone foundation, and through the middle of the timbers *e* and fastened with iron keys, one inch thick and three inches wide. The middle upper ways of the cradle on which the ship is moved to the shore, are made of two courses of timber 16 by 17 inches broad; they are screw-bolted together, forming a surface of 34 inches. (See figs. 3 and 5, letter *g*.) The side-ways are made of two courses, 12 by 16 inches, screw-bolted together, forming a surface of 24 inches. (See figs. 3 and 4, letter *h*.) Both the middle and side-ways of the cradle are made of sections of about 32 feet in length; the sections of the cradle are fastened together by plates of iron, two inches thick and six inches wide, by about twelve feet long, passing over the joints, (in fig. 3,

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joints marked JOINTS) the plates on one part lapping over those on the other; they are screw-bolted to the ways, being keyed together with iron keys three-fourths of an inch thick by 4 inches wide. (See figs. 3 and 4, letter *i*.) The joints in the middle upper way (see fig. 3, letter *j*) are supported by plates ten inches wide by two inches thick, and keyed with iron one and a half inch thick by 6 inches wide.

Across the top of the cradle-ways are ties (sheet K, figs. 3, 4 and 6) of wood 16 by 16 inches, placed eight feet apart, locked down over them four inches, and fastened with screw-bolts. Between each of these ties there is one keel-block sixteen inches broad by twelve inches deep, placed upon the middle way of the cradle.

On every alternate tie there is placed an ordinary solid bilge-block; made to slide up to the vessel's bottom, where it is held by a pall working in a cast-iron rack.

These bilge-blocks are also to be used in the floating docks when the cradle is not in use. (See fig. 6, letter *k'*.)

There are also braces of wood 12 by 12 inches, (*m*, fig. 3) jogged into the side and middle ways, where they are supported by chocks; these braces are jogged up 4 inches into the ties, as they pass diagonally across from one way to the other. The cradle is also strengthened with iron rods 1¼ inch diameter, (*n*, fig. 3) passing from the middle to the side ways, diagonally, and made to tighten with connecting screw-swivels; where the iron rods are attached to the ways, there are, in the plates of iron which fasten the section of the ways together, projections into which the ends of the rods are screwed. (See fig. 3, letter *l*.)

The foundation of the basin and railway will be of the most solid construction, according to the nature of the soil.

The cradle is to be so arranged that it can be removed from under the ship and replaced without difficulty.

### *Engine-pumps and other fixtures.*

The engines—one on each side—(see *a*, sheet H) will be horizontal and of twenty horse-power, and placed on the guard, (*w'*, fig. 5, sheet A,) a plan of half of which is shown by fig. 16, same sheet.

The boiler (*b*, sheet H) is of the locomotive kind, and placed at one end of the engine, with the furnace on one side. The pumps (*c'*, sheet H) are twenty in number on each side; they are made of plank five inches thick, and fastened with inch-iron screw-bolts, passing through and through all the parts; they are ten feet long, with 18 by 18 inches square chambers, and three feet stroke; sixteen of the pumps will be placed in the main pump-well directly under the engine, and two of them will be placed in smaller wells, adjoining the main well. (See *a'*, sheet H, for these pumps and small well.)

The upper and lower boxes (*e*, sheet H) are to be of composition; the lower one is made to fit the chamber by cork placed in groove (*f*,) and the upper one is leathered, the ring (*g*) screwing down upon it. The valves are of the kind called butterfly valves; they are also of composition; their form is seen at (*h*.) The guide-rod (*i*) is of iron, and the connecting (*j*) is also of iron.

The gearing and shafting by which the pumps are driven is shown at *k*, the bevelled wheels *l*, the crank-wheels *m*, the pinion-wheels *n*; the shaft, running the whole length, *o*; the clutches by which the pumps may be thrown

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out of gear, *p*, section of clutch. An elevation of one of the crank-wheels and pinions is seen at *q*. At the end of the shaft *n* is seen the windlass *r*, by which the gates at each end of the dock are opened. The chains by which the gates are opened will be $\frac{5}{8}$. The forward gate will be hoisted perpendicularly out of the bitts by means of this chain and windlass, and then lowered down into the water when a vessel is to be hoisted out of the dock, and again hoisted in its place when the dock is sunk to float the vessel. The pumps will be so arranged as to pump out the dock, in raising a vessel, with one engine, by means of the conductor, (12,) sketch sheet.

The engines and boilers, and machinery attached to them, will be enclosed with good houses, extending out to the guard, (*u'*, fig. 5, sheet A.) A section of the outline of the frame of the house is seen at *o'*, fig. 5, sheet A; the combings (*c'*) will be 6 by 12 deep, and the stanchions (*d''*) will be 4 by 6 scantling, placed two feet apart; the carlines will be 4 by 4, and the plank of the sides and top will be $1\frac{1}{2}$ white pine. The guard (*e'*) will be of timber 12 by 12, and the beams ($a^2$) of the guard-deck will be 6 by 12; the deck of guard will be 3 inches. The beams of the guard-deck will be tenoned into the thick strake (*p*) of the dock, and into the guard, the tenon being 4 inches and fastened by $1\frac{1}{4}$ treenails. The braces are to be tenoned into the thick strake, (*p*,) and also bolted through the ribs of the dock. There will be a rail on each side of the dock five feet high. The whole surface of the dock, inside and out, above the lower parts of the windows, will be planed and painted with two coats of lead color. The dock will be furnished with centring beams, (letter *d'*, fig. 5, sheet A.) It will also be furnished with solid bilge-blocks, (letter *k'*, fig. 6, sheet F.) The wall shoring against the altars will be furnished in accordance with the plans now in use in the stone-docks at Norfolk or Boston.

All the gates or valves for the passage of water will be geared so that one man can open or close them. The dock will be constructed in a workman-like manner, and furnished with machinery for its successful operation.

J. Y. MASON,
*Secretary of the Navy.*
JOHN S. GILBERT.
ZENO SECOR.

Witness: WM. G. RIDGELY.

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D.

*Specifications of the hauling apparatus for moving vessels from the dock to the bed-ways on shore, and back again to the dock; and also of the engines-house.*

The central bed-ways are to be extended 40 (forty) feet from the end of the main ways, or 390 feet from the rear of the basin into the house hereinafter mentioned, built to protect the cylinder and boiler.

The extension will be constructed in the same manner as the main way, except that the piles will be driven five feet from centre to centre, and the walls will be laid up with split granite in hydraulic cement. On the bed-ways will be placed a hydraulic cylinder of cast iron (see plan No. 9, at A) the piston of which is 15 inches in diameter, and the stroke 8 feet,

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placed near each end of the top of the cylinder, and consists of two vertical cylinders 16 inches diameter and 15 inches stroke, with starting bars and excentrics, the cross-heads on a slide at right-angles, and turning a shaft on which are the excentrics that work the force-pumps.

There are four force-pumps (C C) of 1¼ inch diameter and 6 inches stroke. The connexions between the pumps and hydraulic cylinder will be by means of pipes and valves of suitable size and strength. The boiler (E E) to supply steam to the engine is to be a locomotive boiler, having eighty-five tubes of 2 inches diameter and 9 feet long, giving a fire surface of 821.89 feet.

The boiler is to be supported by a suitable bed-plate of cast iron, resting on a bed-way, and connected by suitable rods of iron with the hydraulic cylinder.

Under the boiler and on top of the bed-ways (F F) is placed a reservoir to furnish water to the boiler, and the pumps of the hydraulic press. The cross-head (G) of the hydraulic press is to be of cast-iron, 57 inches long, 30 inches wide and 18 inches deep. Two side rods (H) 4 by 12, of wrought iron, are to connect the cross-heads with the centre timbers of the cradle on which the ship is to rest when to be drawn ashore. The side rods are to be attached to the centre beams by two cast-iron keys, 20 inches wide, 48 inches long, and 4 inches thick.

The ends of the side rods and the centre timbers are to have a mortise, 20 inches long and 4 inches wide, to receive the key.

The keys are to be 386 feet from the ends of the centre timbers. Lugs to connect the hydraulic cylinder with the bed-way's lugs, of suitable size, are to be cast on the hydraulic cylinder (K) and mortises eight feet apart are to be mortised through the bed-ways (L L.)

The mortises are to be 24 inches long and 6 inches wide; cast-iron keys, 24 inches wide, 6 inches thick, and 44 inches long, are to be placed in the mortises. Wrought-iron rods 6 by 6 inches, and suitably formed to connect with the lugs on the cylinder and the cast-iron keys of the bed-ways, are to make the connexion between the cylinder and the bed-ways (M M.)

The power of the hydraulic press, and the strength of the machinery above described, would be adequate to draw a ship of 5,300 tons.

Unless it should not be required to move a ship of that weight, the power and strength aforesaid are to be diminished in proportion.

One turn-table is to be constructed near the end of the centre bed-way, for the purpose of turning the cylinder around on the ways, (see plan N,) to be built in the following manner, viz: piles 12 inches in diameter are to be driven for the foundation, (see plan F F,) which are cut off 3 feet below mean high tide and capped with timber 12 inches in thickness, (C T;) and a wall of stone is built up thereon, to the same height as the wall of the ways, (G.)

The circle of the table (H H) is to be 10 feet in diameter, and an iron bar, ¾ by 3 inches, is to be laid in a circle on the stone wall, 6 inches from the edges, and crossing the centre-way wall.

A cast-iron plate is let in the centre of the table, 1 inch thick and 10 inches in diameter, and a journal, two inches in diameter, inserted through the plate into the stone.

The main ways are not laid over the space occupied by the table. Two pieces of oak timber, corresponding in size to the ways, are bolted together and an iron plate let in and secured in the centre and at each end at the

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crossing of the circle. This timber, or short way, is placed on the table, and the journal on the table passes up through the centre of the plate and confines it in its position, and allows it to move around the journal on the centre plate.

When it is required to turn the cylinder around, to shift its ends, to push a vessel off from the bed-way upon the floating dock, it is slid on the table and turned around, as shown in the plan.

A house is to be built for the protection of the cylinder and engines, over the end of the centre bed-way, 30 feet wide, 46 feet long, and 12 feet high. (See ground plan L L.)

The foundation is to be of cross foundation timber, 4 feet long and 5 inches thick, laid in a trench dug 3 feet below the surface of the yard. On the cross foundation timber, ranging timber, 12 by 20, is laid, and a stone wall is built up thereon, one foot above the level of the ground. A brick wall, 8 inches thick, is then built up 12 feet in height. The roof is laid to pitch both ways—planked and covered with XX tin. Two windows are to be placed on each side, and a door in front, and one on the side, of sufficient size to admit the passage of the engine and boilers.

Rods of suitable size will be attached to the cradle-ways at the upper end, (M,) so arranged as to receive keys through the mortises in the bed-way, to prevent the ship from slipping back when the hydraulic press is fleeted.

J. Y. MASON,
*Secretary of the Navy.*
JOHN S. GILBERT,
ZENO SECOR.

Witness: WILLIAM G. RIDGELY.

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BOND.

*Know all men by these presents,* That we, John S. Gilbert and Zeno Secor, as principals, both of the city and State of New York, and Francis Secor and Charles A. Secor, as sureties, of the city and State of New York, are held and firmly bound unto the United States of America in the full and just sum of one hundred thousand dollars, lawful money of the United States, to be paid to the said United States, or to any person or persons, agent or agents, that may be duly authorized by the Comptroller of the Treasury of the United States, for the time being, to receive the same; to which payment, well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors, and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals and dated the seventh day of November, anno Domini one thousand eight hundred and forty-eight.

The condition of this obligation is such, that if the above bounden John S. Gilbert, Zeno Secor, Francis Secor, and Charles A. Secor, or either of them, their or either of their heirs, executors, or administrators, do and shall well and truly execute and fulfil, in all its stipulations, a contract which the said John S. Gilbert and Zeno Secor have entered into with John Y. Mason, Secretary of the Navy, acting for and in behalf of the United States, for the complete construction of a balance floating dry-dock, with

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basin and railways, and floating-gate, at the navy-yard at Pensacola, agreeably to their contract, dated 25th October, 1848, for the use of the United States navy, then the above obligation to be void and of none effect; otherwise to remain in full force and virtue in law.

JOHN S. GILBERT, [L. S.]
ZENO SECOR, [L. S.]
FRANCIS SECOR, [L. S.]
CHARLES A. SECOR. [L. S.]

Signed, sealed, and delivered in the presence of—
ELIJAH F. PURDY,
C. S. BOGARDUS.

To the best of my knowledge and belief, the sureties named in this bond are good and sufficient.

CHARLES McVEAN,
*United States Attorney.*

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No. 4.

This indenture, made this nineteenth day of May, in the year of our Lord one thousand eight hundred and fifty-one, at Washington, in the District of Columbia, by and between S. D. Dakin, Rutherford Moody, John S. Gilbert and Zeno Secor, all of the city and State of New York, of the first part, and the government of the United States, by the Secretary of the Navy thereof, of the second part, witnesseth:

That whereas, by an act of Congress of the United States, approved on the 28th September, 1850, entitled "An act making appropriations for the naval service for the year ending 30th June, 1851," in the first section of said act, the Secretary of the Navy is authorized to enter into a contract for the construction of a sectional or balance floating dry-dock, with basin and railway, on the coast of California: and whereas, by a subsequent act approved 3d March, 1851, entitled "An act making appropriations for the naval service for the year ending 30th June, 1852," the first mentioned act has been so far modified and repealed as to authorize the Secretary of the Navy to confine the sums appropriated to the construction of a floating dock alone, without the basin and railway, provided the Secretary of the Navy considers the estimates made by the department for the construction of said work to be "fair and reasonable:" and whereas, in the execution of said laws, the Secretary of the Navy, the party of the second part, has selected and does hereby select, from the two docks named in the first named law, the sectional floating dock, as preferable for the coast of California to the balance floating dock, and also selects some suitable place within the waters of the bay of San Francisco, in the State of California, to be hereafter determined upon, as the location for said sectional floating dock: and whereas the said Secretary of the Navy has agreed with said parties of the first part, upon terms which he considers fair and reasonable, for the construction of said sectional and floating dock, and has considered and approved the plans and specifications which have been signed by the parties hereto, and have been hereto annexed, marked 1, 2, 3 and 4, and forming a part of this contract:

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Now, therefore, it is mutually understood and agreed by and between the parties aforesaid, that for and in consideration of the covenants and agreements hereinafter mentioned, the parties of the first part, themselves, their heirs, executors, administrators, and assigns, do hereby covenant and agree to and with the United States, by the Secretary of the Navy, the party of the second part, that they will furnish all the materials and construct a floating sectional dock of ten sections, with all the machinery, fixtures, and apparatus necessary for working the same, and of power and capacity sufficient to raise and sustain for repairs a ship-of-the-line of five thousand three hundred tons displacement, or a war steamer of the largest class, of not less than three hundred and fifty feet in length, according to the plans and specifications aforesaid.

And it is further agreed, that all the materials shall be of the best of their kind, and the workmanship shall be of the best quality; and it is further agreed, that the said parties of the first part shall construct the said dock at such place or point on the coast of the Atlantic or Pacific ocean as they may prefer; but all the parts of the dock are to be delivered to the United States put together complete, and in every respect ready for use, in raising vessels, at such point in the bay of San Francisco as the party of the second part shall hereafter, and before the dock shall be ready to set up, designate.

And it is further agreed that the work shall be commenced forthwith, and progress in its several stages and periods of construction, in proportion to the time herein stipulated for the completion thereof, and shall be completed in all respects within two years from and after the date of this contract. And it is further agreed, that the said parties of the first part shall and do warrant the dock aforesaid to be capable of successfully raising and sustaining for repairs a ship-of-the-line of five thousand three hundred tons displacement, or a steamer of three hundred and fifty feet in length, and that the experiment for the testing the power and capacity of said dock shall be performed by and at the expense of the parties of the first part, the vessel used for the purpose to be furnished as hereinafter provided.

And the said government of the United States, by the Secretary of the Navy aforesaid, hereby covenants and agrees, to and with the parties of the first part, their heirs, executors, administrators, and assigns, in consideration of the premises, and of the covenants and agreements herein contained, on their part to be performed, to pay to said parties of the first part, their heirs, executors, administrators, and assigns, the just and full sum of six hundred and ten thousand dollars, in the manner following, namely: When bills certified by the superintending agent, on the part of the said party of the second part, and approved by the commandant of the station where the work, or any portion of it, shall be prepared on the Atlantic, or by the superintendent of the work in California, and approved by the commandant of the Pacific squadron, or such other person as the Secretary of the Navy shall from time to time appoint, shall be presented, showing that each or any section is framed, and the whole of the materials of every description, for such section, except the machinery, are prepared or ready for shipment, there shall be paid the sum of fourteen thousand dollars; that the whole of the machinery to make each or any section complete, has been prepared or ready for shipment, there shall be paid the further sum of thirteen thousand four hundred and fifty dollars; that the whole of the materials, including machinery, iron, copper, &c., for each or any section, shall be received at

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the point designated in California by the party of the second part, and the truss-frames ready to be set up, there shall be paid the further sum of eighteen thousand and three hundred dollars; that each or any section shall have been launched and fully completed in every respect, machinery set up, and all ready for immediate use, there shall be paid the further sum of fifteen thousand two hundred and fifty dollars.

Each of the said payments to be made by the navy-agent at New York or San Francisco, within thirty days from and after the presentation of bills duly certified and approved as aforesaid, excepting and reserving from each of said payments ten per centum on the bills so approved, as security for the faithful performance of the work; and after the completion and satisfactory trial of said dock by the said parties of the first part, as herein provided, the said ten per centum above reserved and retained shall be paid over to the said parties of the first part in full, within thirty days after the dock shall have been accepted by the Secretary of the Navy.

And it is further mutually understood and agreed by and between the said parties to this contract, that no payments shall be made on account thereof, beyond the appropriations now made for said dock, until Congress shall have made further appropriations for the same; and in no case shall the amount of payments made exceed the amount appropriated for said dock.

And it is further agreed, that if Congress shall fail to make appropriations for the dock aforesaid, to meet the payments as they shall become due, in manner and form as before mentioned, then the party of the second part may suspend the work, unless the parties of the first part may elect to progress with it, and look to Congress for remuneration.

And it is further agreed, that the party of the second part, acting for the United States, shall provide a ship or steamer, not to exceed the dimensions and displacement aforesaid, for full test and trial of said dock, within three months after notice of its completion. And if the party of the second part shall fail to provide the parties of the first part with a vessel for said trial, which trial shall be made by the parties of the first part, after notifying the party of the second part of the time of the trial, then the dock, if otherwise satisfactory in form, construction, and materials, to the party of the second part, shall be considered as complete, and the contract may be accordingly closed.

And it is further agreed, that if the location selected by the party of the second part does not afford a sufficient depth of water for docking vessels of the foregoing description, dimensions, and displacement, then and in that case, such dredging or other excavation as may be necessary to procure a sufficient depth of water for using the dock in raising the vessels above described, shall be done by and at the expense of the party of the second part.

And it is further agreed, that if the parties of the first part shall fail to comply, in each and every particular, with the specifications and provisions of this instrument, all the materials of every kind, delivered and used upon the work, shall be held and used by the United States as their property, as collateral security for advances made, or until a satisfactory adjustment of the case shall be concluded.

And it is further agreed, that all the materials and work of every description which may be shipped on the Atlantic coast for the said dock in California shall be fully insured, and the policies of insurance shall be made payable, in case of loss, to the United States; and in case of loss, the insu-

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rance for loss or damage paid by or recovered from the assurers shall be held by the party of the second part, until the said materials and work lost or damaged shall have been replaced, or that the party of the second part shall be fully satisfied that they will be so replaced.

And it is further agreed, that the said dock shall be so constructed under the supervision of a competent naval constructor, or other person appointed by the party of the second part, who shall have power to reject and exclude any materials or workmanship from said dock, which are not in accordance with the said plans and specifications hereunto annexed, either in kind, size, or quality, or which, in his judgment, are not suitable for the portion of the work they are delivered for, and who shall see that said dock is constructed in conformity to said plans and specifications; but if, in the construction of said dock, and the apparatus thereto, any improvement shall be suggested by either party, that may be considered advantageous to the utility of said work, with the assent of both parties thereto they may be adopted, without otherwise impairing or affecting this instrument.

And the parties of the first part do further engage and contract, that no member of Congress, officer of the navy, or any person holding any office or appointment under the Navy Department, shall be admitted to any share or part of this contract, or to any benefit to arise therefrom. And it is hereby expressly provided, and this contract is upon this express condition, that if any such member of Congress, officer of the navy, or other person above named, shall be admitted to any share or part of this contract, or to any benefit to arise under it, or in case the parties of the first part shall in any respect fail to perform this contract on their part, the same may be, at the option of the United States, by the Secretary of the Navy, the party of the second part, declared null and void, without affecting the right of the said party of the second part to recover for defaults which may have occurred.

It is further stipulated and agreed that if default be made in progressing with, and the execution of the said work satisfactorily, as aforesaid, and especially if the said dock, after completion, shall prove insufficient to dock successfully vessels of the navy, according to their warranty aforesaid, then and in that case the said parties of the first part will forfeit and pay to the United States, as liquidated damages, the sums of money which may have been paid to them under this contract, with interest at six per centum, which liquidated damages may be recovered from time to time as they accrue, and the said materials are not to be removed until the moneys and interest so advanced shall have been refunded; but the said materials are to be held and used as the property of the United States, as an additional security for the performance of this contract in all its parts.

And it is further agreed by the parties of the first part, that they will protect the party of the second part (the government of the United States) in the full use and enjoyment of the patent-right of the said sectional floating dry-dock, and the right to use the same against any lawful claim that may be set up by William Ballard and Roswell B. Mayson, or any other parties lawfully claiming the said patent-right.

It is further agreed, that the said parties of the first part shall, on demand, give to the said party of the second part their bond, with two sufficient sureties, in the penalty of one hundred thousand dollars, conditioned for the faithful performance, on their part, of this contract.

In testimony of all which agreements and stipulations, the parties above

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named have hereunto signed their names, and affixed their seals, this nineteenth day of May, anno Domini one thousand eight hundred and fifty-one.

S. D. DAKIN, [L. S.]
RUTHERFORD MOODY, [L. S.]
JOHN S. GILBERT, [L. S.]
ZENO SECOR, [L. S.]
WILL. A. GRAHAM, [L. S.]
*Secretary of the Navy*

Signed, sealed, and delivered in the presence of—
GEO. L. STORER,
As to the first four signatures.
CHAS. B. STUART,
As to the signature of the Secretary of the Navy.

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[No. 8.]

***Bill of materials for the construction of one section of floating dock, as per specifications and plan.***

| | Length. | Section. | Cubic feet. | Total cubic feet. |
|---|---|---|---|---|
| WHITE OAK TIMBER. | | | | |
| *First class.—In lengths of 60 feet and over.* | *Feet.* | *Inches.* | | |
| 2 main stringers | 70 | 16 × 16 | 250.00 | |
| 2 top stringers | 60 | 16 × 16 | 213.33 | |
| 4 main stringers | 60 | 14 × 15 | 350.00 | |
| 2 fenders | 60 | 8 × 12 | 80.00 | |
| 4 corners | 60 | 12 × 14 | 280.00 | |
| | | | | 1,173.33 |
| *Second class.—In lengths of 50 feet and under 60 feet.* | | | | |
| 4 shores | 52½ | 9 × 16 | 210.00 | |
| 4 main braces | 57 | 9 × 16 | 228.00 | |
| 2 fenders | 50 | 8 × 12 | 66.67 | |
| 4 corners | 50 | 12 × 14 | 233.33 | |
| | | | | 738.00 |
| *Third class.—In lengths of 40 feet and under 50 feet.* | | | | |
| 2 splicers | 45 | 16 × 16 | 160.00 | |
| 4 posts | 47 | 10 × 15 | 198.50 | |
| 8 segments | 46 | 12 × 12 | 376.33 | |
| 4 bilgers | 42 | 8 × 18 | 168.00 | |
| | | | | 897.83 |
| *Fourth class.—In lengths of 30 feet and under 40 feet.* | | | | |
| 4 float sills | 35 | 16 × 16 | 248.00 | |
| 4 trusses | 35 | 16 × 20 | 311.00 | |
| 52 top and bottom braces | 30 | 6 × 14 | 910.00 | |
| 4 beams | 30 | 14 × 14 | 163.33 | |
| 4 corner beams | 32 | 14 × 18 | 224.00 | |
| 2 girts | 32 | 12 × 14 | 74.67 | |

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*Bill of materials*—Continued.

| | Length. | Section. | Cubic feet. | Total cubic feet. |
|---|---|---|---|---|
| | *Feet.* | *Inches.* | | |
| 1 top beam | 32 | 16 × 24 | 85.33 | |
| 1 middle beam | 32 | 16 × 16 | 56.67 | |
| 1 bottom beam | 32 | 14 × 24 | 75.00 | |
| 2 out-end joists | 30 | 8 × 12 | 40.00 | |
| 2 middle joists | 30 | 6 × 14 | 35.00 | |
| 2 top joists | 30 | 6 × 12 | 30.00 | |
| 2 outside end | 30 | 6 × 14 | 35.00 | |
| 2 outside middle | 30 | 8 × 12 | 40.00 | |
| 4 outside beams | 30 | 8 × 9 | 60.00 | |
| 8 ladders | 36 | 6 × 7 | 84.00 | |
| 2 studs | 36 | 8 × 8 | 32.00 | |
| 2 keel sills | 32 | 8 × 18 | 64.00 | |
| 4 connecting rods | 34 | 7 × 16 | 105.67 | |
| | | | | 2,673.67 |
| *Fifth class.—In lengths of* 20 *feet, and under* 30 *feet.* | | | | |
| 4 splicers | 25 | 16 × 16 | 181.33 | |
| 4 trusses | 22 | 16 × 20 | 195.67 | |
| 4 trusses | 20 | 16 × 16 | 143.00 | |
| 8 splicers | 23 | 14 × 15 | 268.67 | |
| 8 trusses | 27 | 8 × 15 | 180.00 | |
| 4 trusses | 27 | 8 × 15 | 90.00 | |
| 4 top braces | 28 | 6 × 8 | 37.33 | |
| 4 braces | 25 | 9 × 15 | 93.67 | |
| 4 girts | 22 | 8 × 15 | 74.00 | |
| 4 top braces | 22 | 8 × 12 | 29.33 | |
| | | | | 1,293 00 |
| *Sixth class.—In lengths of* 10 *feet, and under* 20 *feet.* | | | | |
| 4 corner posts | 12 | 16 × 18 | 98.00 | |
| 4 trusses | 11 | 10 × 12 | 36.67 | |
| 104 ribs | 11 | 9 × 9 | 641.33 | |
| 4 connecting | 17 | 12 × 12 | 136.00 | |
| 4 centre side studs | 11 | 9 × 24 | 33.00 | |
| 30 studs | 11 | 6 × 14 | 192.50 | |
| 4 studs | 11 | 12 × 14 | 51.17 | |
| 2 trusses | 15 | 12 × 16 | 40.00 | |
| 2 trusses | 15 | 16 × 16 | 53.08 | |
| 8 trusses | 15 | 8 × 12 | 80.00 | |
| 8 trusses | 16 | 8 × 12 | 85.33 | |
| 72 studs | 11½ | 7 × 12 | 483.00 | |
| 4 out-end B. braces | 11 | 6 × 6 | 11.00 | |
| | | | | 1,941.08 |
| *Seventh class.—In lengths of under* 10 *feet.* | | | | |
| 1 stud | 5 | 12 × 16 | 6.67 | |
| 2 studs | 7 | 12 × 16 | 18.66 | |
| 6 posts | 9 | 12 × 12 | 72.00 | |
| | | | | 97.33 |
| OAK. | | | | |
| *Sizes not specified.* | | | | |
| 4 bilge blocks | | | 100.00 | |
| 1 set keel blocks | | | 83.33 | |
| 6 wale shores | | | 66.67 | |
| 4 stanchion posts | | | 16.66 | |
| | | | | 26.666 |

Ex.—5

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## *Bill of materials*—Continued.

| | Length. | Section. | Cubic feet. | Total cubic feet. |
|---|---|---|---|---|
| YELLOW PINE TIMBER. | | | | |
| *Second class.* | *Feet.* | *Inches.* | | |
| 8 posts | 46 | 10 × 15 | 383.33 | 383.33 |
| *Fourth class.* | | | | |
| 52 top and bottom beams | 30 | 6 × 14 | 910.00 | ..... |
| 12 top beams | 30 | 6 × 12 | 180.00 | ..... |
| | | | | 1,090.00 |
| *Fifth class.* | | | | |
| 8 corner beams | 27 | 12 × 12 | 216.00 | ..... |
| 4 keelsons | 27 | 6 × 9 | 40.33 | ..... |
| | | | | 256.33 |
| *Sixth class.* | | | | |
| 8 corner beams | 15 | 12 × 15 | 160.00 | ..... |
| 60 beams | 15 | 5 × 9 | 280.00 | ..... |
| | | | | 430.00 |
| *Seventh class.* | | | | |
| 40 end studs | 8 | 5 × 9 | 100.00 | ..... |
| 60 side studs | 8 | 5 × 9 | 150.00 | ..... |
| 12 studs | 6 | 6 × 6 | 18.00 | ..... |
| 4 studs | 8 | 6 × 9 | 12.00 | ..... |
| | | | | 280.00 |
| PLANKING. | | | | |
| *Oak.* | | | | |
| 1-inch, for bottom main tank | 20 | ..... | 355.55 | ..... |
| 4-inch.....do.....do | 40 | ..... | 711.12 | ..... |
| 4-inch, in bulkheads | 32 | ..... | 216.67 | ..... |
| 4-inch, in ends | 32 | ..... | 234.66 | ..... |
| | | | | 1,518.00 |
| *Yellow pine.* | | | | |
| Promiscuous, pillow-blocks, &c | ..... | ..... | 166.66 | ..... |
| 5-inch, for sides | 20 | ..... | 305.55 | ..... |
| 5-inch, for sides | 40 | ..... | 611.12 | ..... |
| 3½-inch, for top | 32 | ..... | 933.33 | ..... |
| 3-inch | 28 | ..... | 680.00 | ..... |
| 3-inch | 15 | ..... | 120.00 | ..... |
| 2-inch | 28 | ..... | 216.66 | ..... |
| | | | | 2,983.32 |
| *White pine.—Sizes not specified.* | | | | |
| 2-inch | 32 | ..... | 233.33 | ..... |
| 1-inch board | ..... | ..... | 916.67 | ..... |
| For two engine and machine houses, and siding and roofing | ..... | ..... | 500.00 | ..... |
| | | | | 1,650.00 |

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[No. 4.]

*Specifications of a sectional floating dry dock to be constructed at the site to be selected by the Navy Department for a location of a navy yard at San Francisco, State of California.*

FLOATING DOCK.

The floating dock is to consist of ten sections, each constructed in the same manner. The outside measurement of each is to be as follows: One hundred and thirty-three (133) feet long, thirty-two (32) feet wide, eleven feet nine inches ($11\frac{9}{12}$) in depth. The main tank to be one hundred (100) feet long, thirty-two (32) feet wide, and eleven feet nine inches ($11\frac{9}{12}$) deep, and ninety-two (92) feet between the inside posts, A J; and the end floats are to be twenty-six feet and a half ($26\frac{1}{2}$) in length, fifteen (15) feet wide, and eight and a half ($8\frac{1}{2}$) feet deep.

The size of all the timbers for the frame work of the dock is to be the same as marked upon the framing plans sent herewith, marked Nos. 1 and 2, and the frame-work is to be framed and put together in the best manner, and in conformity to those plans.

All the timber used in the construction of this dock to be of the best quality of northern white oak and white pine, and southern yellow pine. The manner of construction is to be the same in each section, and to be as follows, (see plan No. 1,) viz: The two side trusses are to be first framed and put together of the best white-oak timber, of the dimensions marked on plan No. 1; two sticks of white oak (A) 16 by 8 inches, are spliced in the centre so as to make one piece, and the stick of white oak or yellow pine (B) 16 by 16, is spliced at each end near the steps of the trusses, to make the same length, and is placed on the top of the first stringer (A;) two pair of trusses of white-oak timber 16 by 20 (D) are stepped into the main stringers (B.)

The float-sill (E) 16 by 16, is placed on the top of the main stringer (B,) running out to the end float, framed and bevelled to fit the foot of the truss, (G L.) The two stringers, the float-sills and trusses, are then bolted together with $1\frac{1}{2}$-inch iron screw-bolts, two through each step; they being side by side, one only is shown by the marks (*a*, *a*, &c.) on plan No. 1, fig. 1. The top stringer (F) 16 by 16 inches, is to be spliced together with one splice, and bolted with six (6) $1\frac{1}{2}$-inch iron screw-bolts, (*h*, *h*, &c.;) the short trusses (G) 12 by 12, near the end of the truss-frame, and the truss (G J,) are placed in position, and the corner posts (H) 16 by 18, are framed and halved on the stringers, and bolted with $1\frac{1}{2}$-inch iron screw-bolts. Mortises are made on the inside of the top and bottom stringers to receive the top and bottom beams (I) or ribs, 6 by 14, of yellow pine 9 by 9, and are fitted and locked three inches on both edges of the top and bottom stringers and trusses, on the outside of the frame that they cross. (See plan No. 1, fig. 1.) The truss-frame is then strapped with two iron bands (W) 1 by 6 inches, at the foot of each main truss, and one band of iron of the same dimensions at the foot of each of the two smaller trusses, and four (4) bands of iron, 1 by 6 inches, in the centre of the truss-frame, (plan No 1, fig. 1.) These bands are fastened in the centre with keys and gibs, passing through a stud 6 by 16 between the stringers, and holding the bands in place, (plan No. 2, W.) The truss-frame being raised to an upright

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position, and corresponding truss-frame being made and raised for the opposite side of the section, the top and bottom beams (I) 6 by 14, of yellow pine, are framed with a double tenon and shoulders, and inserted eighteen (18) inches from centre to centre in the mortises made in the top and bottom stringer to receive them, and pinned. (See plan No. 1, fig. 2, and plan No. 2, section on line C D.) Two centre trusses, of white-oak or yellow-pine timber, are framed and set up in their position as shown in plan No. 2, fig. 3. The top and bottom keelsons (L L) of these truss-frames are 14 by 15; the main trusses (M) 8 by 15, and short trusses (M O) 8 by 12; for their position and manner of bolting and locking them together, reference is made to plan No. 2, fig. 3, and section on line B B, of C D. The ties (R) 7 by 12, are spiked with two iron spikes nine inches long and $\frac{7}{8}$-inch square in each keelson, and one at each crossing of the trusses and end braces.

One cross-truss of white-oak timber is framed within the tank, under the keel. For the manner of framing this cross-truss, and fastening it, reference is made to plan No. 2, section on line A B, and cross section D D.

The bottom stringer or beam A C is 16 by 16, and halved six inches to admit the bottom keelsons, (L L) and the ends rest upon the two side-stringers, (B B) and mortise into a side rib, (C) 9 by 16.

The top stringer (A D) is 16 by 24, and mortises into the top side stringers (F F.) The trusses are 12 by 16 and 6 by 16, (A E) and the 12 by 16 are fastened with two $1\frac{1}{2}$-inch iron bolts.

The studs, (A H) 12 by 16, are also framed in an upright position in this truss. The end corner beams (N) are framed into the side stringers, (A, B and F) and the end studs, (A Y) 6 by 14, of white-oak, are framed into the end, top and bottom beams (N) of the main tank, the studs being tenoned into the corner beams (N) and fastened with pins, as shown in plan No. 2.

A double water-tight bulk-head is constructed in the centre of the tank, on each side of the interior truss, at A G. (See plan No. 2, line D D, section on line A B.) This bulk-head is made of two tiers of white-oak plank, standing end-ways, 4 inches thick, and fitting in a rabbet on the bottom beam, (N R) 14 by 24, and the top truss-beam, (A D) 16 by 24.

Each plank is fastened with 7-inch iron spikes, two at top and two at bottom, to these beams and side of the truss, (A E) with two similar spikes in each plank.

A space is left in one tier of the plank to allow the water to escape.

Two (2) bulk-heads, made of 2-inch white-pine plank, are framed inside of the tank, at equal distances from the centre to the end, and are secured by being spiked to the top and bottom beams with 4-inch iron spikes, and a plank 3 by 10 inches is fitted between the bulk-head and adjoining beam.

Each of the bulk-heads, except the centre one, is provided with a door, to admit of passing from one apartment to the other. (See plan No. 2, section on line C D.)

Two connecting-rod posts of white-oak, 12 by 12, (Q Q) (see plan No. 1, at 2,) are framed in the side truss-frame, near each corner of the section, in the same manner as the side ribs. The end corner beams (N) and corner posts (H) are rabbeted to admit of planking flush with the outside of the posts and beams. The four corners (A H) on the two sides are worked out of yellow pine, 12 by 14, and gained into the side ribs and against the stringers, forming the commencement of the *planking*, and making no joints at the corners. (See plans Nos. 1 and 2, A H).

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The planking on the bottom of the tank is to be 4 inches thick; on the ends 4 inches thick; on the top 3½ inches thick, and on the sides 5 inches thick, of white-oak on the bottom and ends, and the rest of yellow pine; no plank to be used over 12 inches wide, except below the centre of the dock, and below not over 15 inches wide. On the bottom and ends of the tank the plank is to be fastened with two composition spikes, 8 inches long and $\frac{7}{8}$ square, to each beam at the crossing, and for each plank over 14 inches three composition spikes of the same size to each beam at the crossing, and in the same proportion for wider plank. On the top of the tank, the plank not over 10 inches wide are to be fastened with iron spikes, 7 inches long and ⅞-inch square, driven at the same distance apart and in like manner. On the sides of the tank the planks are to be fastened with two composition spikes, 10 inches long and $\frac{9}{8}$-inch square, at the ends of each plank 12 inches wide or less, and three at the end of each plank over 12 inches wide, and one composition spike of the same size to every third rib, and two 1¼-inch treenails to each crossing, for each plank 15 inches wide, except where fastened by spikes. The ribs (K) each to be fastened with two iron spikes, 11 inches long and ⅝ square, at top and bottom stringers, and one treenail, 1¼-inch, in the trusses, at each crossing, and two in each stud, at the float-sill.

The corner pieces are to be fastened with two 1-inch copper bolts at each end, and one 1¼-inch treenail every two feet.

The corner posts are screwed with iron joint-bolts, (see plan No. 2, figs. 4 and 5) 1½-inch diameter, and the tenons are pinned. Eight braces, 8 by 8, (see plan No. 1) are framed in each end of the main tank, stepping into a girt, (T T) 12 by 12, and the two centre top and bottom keelsons (L L.)

The main tank having been framed and planked, the end frames are then constructed of yellow-pine timber. For the sizes of the timber and manner of framing and fastening, reference is made to plans Nos. 1 and 2.

The posts (A J) 10 by 15, of oak, on section line (E E,) are mortised down through the top and bottom stringers, and secured by locust-pins. The posts adjoining, (A K) 10 by 15, are mortised into the float-sill E, close to the end of the section, and halved on and pinned thereto, and bolted to the end beams (N) of the main tank, with two 1¼-inch bolts in the beam and two pins in the sill.

The posts (A L) 10 by 12, in the out-end section, on line H K, are mortised into the float-sill, and bolted with one bolt. The pinion-posts, of white-oak, (S S) 11 by 11, are tenoned into the float-sill, and the 12 by 12 girts (N M) above. The girt (N M) is mortised to receive the pinion-posts, (S S) and halved on and bolted with 1¼-inch screw-bolts to the posts A J, A K and A L.

The main brace, 9 by 16 and 9 by 14, (A M) and posts last named, having been halved or boxed at the intersecting points, are then bolted with 1¼-inch iron screw-bolts, two at each crossing.

The girt (A N) 8 by 15, is then halved on to the posts and fastened at each crossing with 1¼-inch iron screw-bolts.

The brace (A O) 9 by 15, is halved on to the float-sill (E) and fastened with two 1¼-inch iron screw-bolts to post (A J) and (A K) with similar bolts. The brace (A O,) 9 by 15, is halved on to the float-sill (E,) and fastened with two 1¼-inch iron screw-bolts, and also to post (A J) and (A K) with similar bolts. The brace (A P,) 8 by 8, is halved on to the float-sill (E) and girt (A N,) and bolted with similar bolts. A corresponding frame is then raised on the truss-frame and float-sill on the opposite side of

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the section, and the girts (A Q,) (see plan No. 2, section on line H K) 6 by 12 (A S,) 6 by 14 (A E,) 10 by 12, and the four braces 6 by 7 (see plan,) having been framed and tenoned into their places, and bolted with 1¼ joint bolts, together with the girts (A V) 6 by 12, (A W) 8 by 10, and (A X) 6 by 14, on section on line E F, and the 6 by 7 braces, the floor-beams (H H) 6 by 12, are laid on the girts (N M) and secured by pins.

A girder (V V) 8 by 12, (see plan No. 2, section on E F and H K) is then raised and secured by screw-bolts to girts (A Q) and (A V) and supported by a post (W W) 8 by 8. A floor (H V) is then laid on the floor-beams, of two-inch white-pine plank, jointed together and secured with two 4-inch spikes at each crossing.

A house is then to be constructed on the top of each end frame, seven feet in height, to protect the machinery. The frame-work and rafters are of white-pine scantling and weather-boards ⅞-inch, white-pine boards 6 to 8 inches wide, planed on both sides, matched and grooved, and the roof to be covered with matched 1¼-inch pine plank and XX tin. A ladder on brace T, section E F, is to be constructed, to go from the dock to the platform in each end frame.

### THE END-FLOATS.

There are to be two end floats on each section, the frames of which are to be of yellow-pine timber; all the corners and beams (U) 11 by 11, all the posts (V) 12 by 12, and are framed together by single mortises, tenons and shoulders. (See plan No. 2, fig. 5.)

The top and bottom beams (H) 5 by 9, are tenoned with single mortises into the side corner beams (U.) The side studs (H) 5 by 9, are also mortised with single mortises into the end corners.

Two yellow-pine keelsons (Y Y) 6 by 9, are tenoned into the keelson posts. Studs (E M) 6 by 6, of yellow pine, are set between the keelsons, three feet apart. The outside corners have a rabbet to admit the plank in flush with the corners.

The end-floats are to be covered with 3-inch yellow-pine plank, fastened up to copper-line with 6-inch composition spikes ⅝-inch square, two to each beam at the crossing, for each plank twelve inches more or less, and no plank to be used over that width, and on top not over ten inches wide; to be fastened in the same manner above the copper-line with iron spikes.

The main tank is to be thoroughly caulked with wedges of oakum, as shall be hereafter determined and directed by the government, superintendent or engineer, tarred, pitched, and made water-tight, and, together with all the end framing, is to be sheathed with 32-oz. copper, fastened with 1⅝-inch copper nails, one hundred to the square foot, except the top, which is to be sheathed with ⅞-inch white-pine sheathing-boards, fastened with 3-inch nails, equal to 1½ to every square foot, and graved with a coat of tar and pitch. All bolts or fastenings that would come in contact with the copper sheathing, to be of copper or composition metal.

The end-floats to be throughly caulked, tarred and pitched, and made water-tight.

The bottom, and three feet up the sides and ends, to be sheathed with 32-oz. copper, fastened with 1⅜-inch copper nails.

The end-frames and float-sills to be coppered as high as the top of the tank.

Guides (B B) 4 by 4, are spiked to the posts (A K) and (A L) with

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eight-inch spikes, and guides (L P) 8 by 8, are spiked to the four corners of the floats, to guide them in their ascent and descent.

Two pieces of white-oak timber, (C C) one at each end of the section, 16 by 18, (see plans 1 and 2) are fastened on the top of the section, and a mortise is made on each to receive the tenon of the connecting beams.

Two connecting beams (Q Q) (see plans Nos. 1 and 2) 7 by 16, are to be framed and inserted between the connecting-rod post (Q Q) under the key, and tenoned into the timbers (C C.)

The connecting-rod timbers are secured together by two iron bolts. There are to be two keel-block timbers (F E) 6 by 18, of white oak, laid side by side, and fastened to the top of the dock, with eight fifteen-inch iron spikes. The four slides for the bilge-blocks to rest on (J L,) of white oak 6 by 16, are placed directly over the trusses, and fastened down with iron spikes fifteen inches long, and $\frac{5}{8}$ inch square, and four feet apart.

There are to be eight keel-blocks (Z) to each section, three feet long, and 12 by 18 inches, of white oak, fastened down with iron dogs in each. There are also to be eight bilge-blocks (see plan No. 1, at 5) made of white oak of the following sizes, namely: three to be five feet high, and two eight feet high—four to be five feet long at the base, and all one foot thick at bottom and eight inches at top, to be secured to the bilge-block timbers by iron guides, (see plan 1, figs. 1 and 2,) and to be provided with iron racks, bolted to the bilge-slides six inches wide and one inch thick, with suitable followers or palls hung at the foot of each block, with hinges and everything complete for working them; or the bilge-blocks may be constructed on any other plan, not more expensive to us, that may be deemed preferable by the Bureau of Yards and Docks.

The top of the platform not covered with houses, is to be protected with zinc. Every part of the dock below, and including the bilge-blocks, to have three good coats of brown zinc paint, and all work above top of bilge-blocks to have three good coats of white zinc paint.

Each section is to be furnished with two air-tubes (see plans Nos. 2 and 3) seven inches square, of white-pine boards, running from the tank to the platform, with feet and inches marked upon them to graduate the sinking of the dock, and with two gauge-rods and copper plates (see plan No. 2, at 4) within them, marked and graduated to show at all times the lifting power exerted by the dock; also with four wale-shores, (see plan 1, fig. 1, at 8) provided with racks and palls, hinges and lines, for working, and also with six composition pumps of bore eleven inches in diameter, (see plans Nos. 1 and 2, fig. 1, at 6) with butterfly valves, and each provided with $1\frac{1}{4}$ inch iron rods leading to the cross-head and slides, and connecting with the pump shaft or crank, to which is attached a fly-wheel moved by a belt running from the main shaft. Four steam-engines, two of twenty (20) horse-power, and two of twelve (12) horse-power, each of the best construction, are to be furnished for driving the machinery. A composition gate is placed in each end of the main tank, (see plan 2.) Elevation of tank at Y Z, with a connecting rod leading to the platform.

A plug-hole $1\frac{1}{2}$ inch in diameter is made in the bottom of the tank, nearly under the scuttle, with a suitable plug and handle to admit water the first time the dock is sunk.

A scuttle (Y B) placed at each end of the main tank, of sufficient size to admit of passing into the interior, with a ladder leading to the bottom of the tank, provided with an appropriate covering of the same thickness as the planking, and caulked down water-tight.

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Each section is also to be provided with all the requisite pumps and float machinery and gearing, to be drove by banding or shafting, as shall be directed by the government superintendent or engineer, all to be graduated and arranged with a view to secure such strength and produce such relative motions of the pumps and floats as may be necessary, it not being possible to designate the exact relative sizes of the different parts until these motions are fixed.

All the shafts are to be of wrought iron, of appropriate sizes and bearings, and all the cog-wheels, racks and pinions to be of cast-iron.

The following is a proximate description of the machinery and gearing to be furnished for working the pumps and floats, the sizes, of course, being proximate and subject to be varied, according to the motions that may be given, viz: On the top of each float-pinion, shafts 4 inches in diameter; 1 screw-shaft 3½ inches in diameter; 1 pinion ditto 5 inches in diameter; 2 pinions and straps for the same; 4 pillow-blocks; one cast-iron frame; 1 bevel-wheel 9 inches in diameter; 1 endless screw 9 inches in diameter; 1 bevel-wheel $1\frac{8}{12}$ feet in diameter; 1 spur-wheel 6 feet in diameter; 1 ditto 3 feet in diameter. On the top of each end frame, 1 driving shaft 3¼ inches in diameter; vertical shafts 2¼ inches square; double pump-cranks 3½ inches in diameter; single ditto 3 inches in diameter, weighing 390 to 400 pounds; 1 fly-wheel, for single pumps, 5 feet in diameter, weighing 290 to 300 pounds; 4 driving-pulleys 2 feet 3 inches in diameter; 1 spur-wheel 3 feet diameter; 2 spur-wheels 2 feet diameter; 1 pinioned 1 foot diameter; 1 bevel-wheel 9 inches diameter; one bevel-wheel $1\frac{8}{12}$ feet diameter; 1 cast hollow shaft 3½ inches in bore and $\frac{5}{8}$-inch thick, except the ends, which are ¾-inch, turned and hooped with wrought iron, with pillow-blocks, stands and clutches for working, all to be made in a very substantial manner.

It is also understood that all the white-oak, white pine and yellow pine used in the construction of this dock, is to be delivered as classified in the foregoing bill of materials, No. 3, and it is all to be free from wane, black or loose knots or shakes; and all the yellow-pine and white-pine timber, plank and boards, and all the white-oak plank or ribs, is to be *well seasoned* before being used in the work, and no timber of any description to be used that has not been cut less than one year before being used or put into the dock.

WILL. A. GRAHAM, [L. S.]
*Secretary of the Navy.*

S. D. DAKIN, [L. S.]
RUTHERFORD MOODY, [L. S.]
JOHN S. GILBERT, [L. S.]
ZENO SECOR. [L. S.]

Witness to the four signatures of the contractors of the first part—
GEORGE L. STORER.
As to the signature of the Secretary of the Navy—
CHARLES B. STUART.

I certify that I have examined the foregoing contract, bill of materials and specifications, and also examined the plans accompanying the same, by the directions of the Secretary of the Navy, and do approve the same as specified and described.

CHARLES B. STUART,
*Engineer-in-chief U. S. Navy.*

NEW YORK, *May* 19, 1851.

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*Know all men by these presents*, That we, S. D. Dakin, Rutherford Moody, John S. Gilbert, and Zeno Secor, as principals, all of the city and State of New York, and Charles A. Secor and Edgar M. Brown, as sureties, of the city, county, and State of New York, are held and firmly bound unto the United States of America, in the full and just sum of one hundred thousand dollars, lawful money of the United States, to be paid to the United States, or to any person or persons, agent or agents, that may be duly authorized by the Comptroller of the Treasury of the United States, for the time being, to receive the same, to which payments, well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors, and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated the twentieth day of May, anno Domini one thousand eight hundred and fifty-one.

The condition of this obligation is such, that if the above bound S. D. Dakin, Rutherford Moody, John S. Gilbert, Zeno Secor, Charles A. Secor, and Edgar M. Brown, or either of them, their or either of their heirs, executors, or administrators, do and shall well and truly execute and fulfil, in all its stipulations, a contract which the said S. D. Dakin, Rutherford Moody, John S. Gilbert, and Zeno Secor, have entered into with William A. Graham, Secretary of the Navy, acting for and in behalf of the United States, for the complete construction of a sectional floating dry-dock at such point in the bay of San Francisco, in the State of California, as the Secretary of the Navy may designate, agreeably to their contract, dated the nineteenth day of May, anno Domini one thousand eight hundred and fifty-one, for the use of the United States navy, then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

S. D. DAKIN, [L. S.]
RUTHERFORD MOODY, [L. S.]
JOHN S. GILBERT, [L. S.]
ZENO SECOR, [L. S.]
CHAS. A. SECOR, [L. S.]
E. M. BROWN. [L. S.]

Signed, sealed and delivered in the presence of—
GEO. L. STORER.

—

STATE OF NEW YORK, } *ss:*
*City and county of New York,* }

Charles A. Secor, being duly sworn, deposes and says, that he resides in the State of New York, in the county of New York; that he is a householder, and that the value of his property, over and above all debts and liabilities incurred by him, is over one hundred thousand dollars.

CHARLES A. SECOR.

Sworn and subscribed, this 22d day of May, 1851, before
HENRY D. TOWNSEND,
*Commissioner of Deeds, No. 37 Wall street.*

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STATE OF NEW YORK,
*City and county of New York,* } *ss:*

Edgar M. Brown, being duly sworn, deposes, that he resides in the State of New York, in the county of New York; that he is a householder, and that the value of his property, over and above all debts and liabilities incurred by him, is over one hundred thousand dollars.

E. M. BROWN.

Sworn and subscribed, this 22d day of May, 1851, before me,
HENRY D. TOWNSEND,
*Commissioner of Deeds, No. 37 Wall street.*

I certify, that I believe the above named sureties in this bond are good and sufficient for the sums named therein.

J. PRESCOTT HALL,
*United States Attorney, southern district New York.*

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STATE OF NEW YORK,
*City and county of New York,* } *ss:*

On this twenty-second day of May, A. D. one thousand eight hundred and fifty-one, before me, came Charles A. Secor and Edgar M. Brown, to me known to be the individuals described in, and who executed the foregoing instrument, and severally acknowledged to me that they executed the same.

HENRY D. TOWNSEND,
*Commissioner of Deeds, No. 37 Wall street.*

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No. 5.

BUREAU OF YARDS AND DOCKS,
*December* 17, 1851.

SIR: Referring to the evidence of title furnished by Mr. Dakin, and submitted in my letter of the 2d instant, I have now the honor to enclose herewith the original patents and certified copies of patents, &c., which show the right and title of S. D. Dakin and his associates, to make, and use, and vend to the United States, the sectional dry-dock, basin and railway, as proposed in their letter of the 2d ultimo.

I enclose, also, a synopsis of the patents for a dry-dock, granted to John Thomas, and his several conveyances of the same, as taken from the records of the Patent Office.

The evidence herewith submitted fully establishes, to my entire satisfaction, the incontestable right of Dakin to construct, use, and sell to the United States, the sectional dock, basin and railway, as proposed,

I have the honor to be, with great respect, your obedient servant,

JOSEPH SMITH.

Hon. WILL. A. GRAHAM,
*Secretary of the Navy.*

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BUREAU OF YARDS AND DOCKS,
*February* 27, 1852.

SIR: In compliance with your directions of the 21st instant, to furnish copies of the papers called for by the Senate's resolution of the 20th instant, I have the honor to transmit herewith copies of contracts under which the dry-docks, basins and railways, have been or are now building at the navy-yards at Kittery, Philadelphia, and Pensacola, together with the copy of a contract for the construction of a dry-dock without basin and railway at San Francisco.

The contracts for the three first named docks, &c., were entered into under a mandatory clause in the act of Congress approved August 3, 1848, which "directed" the Secretary of the Navy "forthwith" to contract with S. D. Dakin and Rutherford Moody, and with John S. Gilbert and Zeno Secor, &c. &c.

The contract for the dock at San Francisco was made under the act approved September 28, 1850.

No advertisement was issued by the department, inviting proposals for the works above mentioned; Congress, by the acts above referred to, having named the parties with whom the contracts should be made.

I have the honor to be, with great respect, your obedient servant,
JOS. SMITH.

Hon. WILL. A. GRAHAM,
*Secretary of the Navy, Washington.*

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No. 6.

NAVY DEPARTMENT,
*January* 21, 1851.

SIR: In compliance with a resolution of the House of Representatives of the 20th instant, requesting the Secretary of the Navy "to inform the House what action, if any, had been had by him under the act of the last session, making an appropriation for the construction of a dry-dock in California, and whether or not, in his judgment, a dock could not be constructed sufficient for all the purposes of the navy, at a much less expense to the government than the one contemplated by the act aforesaid; and that in the mean time the Secretary be requested to suspend further proceedings in the matter"—I have the honor to state, that the act of Congress referred to in the resolution of the House authorized and contemplated the construction of a sectional or balance floating dry-dock, basin and railway, of a capacity and dimensions in no respect inferior to those of the dry-dock in the progress of construction at Pensacola. The three structures, dock, basin, and railway, are so obviously embraced in the law, that I did not feel at liberty to separate them, or to entertain offers for any one of them, without the whole, or for any substitute for the reparation of ships, instead of the series of works pointed out in the act. Accordingly, propositions to build a marine railway in lieu of the dry-dock, and to build a dock only, without the appendages of basin and railway, were of necessity declined.

Having determined, by virtue of the power vested in the head of this department, that the sectional dock was to be preferred to the balance dock, and that some place in the bay of San Francisco is the most eligible

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site for its location, I invited proposals for the whole work, and instructed the Bureau of Yards and Docks to make careful estimates of its cost.

The law limits the cost to a sum "not exceeding by more than twelve per cent. the total amount contracted to be paid for the floating dock, basin and railway, at the Pensacola navy yard, with the addition thereto of what would be the cost of transportation to the Pacific coast of the materials for the work when prepared."

| | |
|---|---|
| 1. The total amount to be paid for the works at Pensacola is - - - - - - | $921,937 00 |
| 2. Twelve per cent. on this sum is - - - | 110,632 44 |
| | 1,032,569 44 |

But, 3d. The cost of transporting all the materials for these immense structures from our Atlantic ports to the bay of San Francisco is so difficult to ascertain, that the limit intended to be placed in the discretion of the department is, at best, very indefinite. The lowest estimate submitted to the department for this item is $581,000. Yet, owing to well known causes, it is still a matter of uncertainty whether it will operate as a saving of money to procure the work, or any portion of it, to be done in California, rather than pay at this rate for freights.

Messrs. Dakin & Moody and Gilbert & Secor claim a patent for the sectional dock, by virtue of an assignment from John Thomas, an original patentee in 1837. Other persons claim under the same individual, and contend that this alleged assignment is invalid. Inasmuch as the letters-patent of Thomas will expire in May, 1851, this dispute is not regarded as of the least importance in letting out the work in question. But Messrs. Dakin & Moody and Gilbert & Secor claim also a patent-right to the marine basin and railway described in the act of Congress, under letters-patent to Messrs. Dakin & Moody in 1842, and which have yet four or five years to run. And they therefore claimed the sole right to contract for these works, since, by the law, the dock, basin and railway, constitute but one structure.

The department, regarding as undeniable the right of the government to take a patented invention for public use, making just compensation, in the same manner that it may appropriate any other article of private property, could respect this claim of exclusion no further than to make a reasonable allowance for the patent last mentioned, in its negotiation with these bidders.

Their first offer was to undertake the whole work at the sum of $1,776-000. The estimate of the bureau, taking the maximum permitted by the law as herein set forth, and adding $581,000 for transportation, amounts to $1,613,569 44, or if the sum of $75,000, stipulated to be paid on account of camel properties in the Pensacola dock, should be left out of this estimate, then to $1, 538,569 44. The bureau was directed to make other estimates irrespective of the prices agreed to be paid for the works at Pensacola, which resulted in an aggregate of about $1,000,000, exclusive of transportation of materials, or their procurement and preparation in California instead thereof.

Messrs. Dakin & Moody and Gilbert & Secor at length offered to undertake the contract at the above estimate of $1,538,569 44. This was declined by the department, and Mr. James Brooks, of St. Louis, who produced unquestionable evidence of character, as well as ability to give secu-

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rity for the completion of the work, submitted a proposal at $1,390,000. This being the lowest bid offered, would have been accepted, but for the reason that Mr. Brooks disclaimed any pretension to a patent-right, and wished to enter into no legal controversy in respect to that alleged by the other bidders, and proposed only for the work. Doubts being entertained whether a contractor for the work might not be enjoined or otherwise impeded by a legal process in its execution by the claimants for the patent above mentioned, negotiations were continued with Messrs. Dakin & Moody and Gilbert & Secor, with the knowledge of Mr. Brooks; and they were finally informed, as the last proposition of the department, that if they would do the work on the terms stated in the law at the sum of $1,450,000, the contract would be concluded. They desired time for consultation, and on Friday last, the 17th instant, informed the department that they accepted this proposition. The contract has not been signed or written, nor has any bond been executed for its fulfilment; and regarding the request contained in the resolution of the House as equivalent to a command, I shall take no further step towards its completion, until the pleasure of Congress in regard to it shall be made known.

In reply to so much of the resolution as inquires, whether, in the judgment of the head of this department, a dock could not be constructed, sufficient for all the purposes of the navy, at much less expense to the government than the one contemplated by the act aforesaid, I have to state, that, in my opinion, a sectional dock alone, without the addition of a basin and railway, but with a pier to secure it, would answer every demand of the navy, on the coast of California, for many years to come. Such a dock has recently raised the steamship "Ohio," belonging to Messrs. Law & Co., in the harbor of New York, which ship is over three hundred feet in length.

The cost of the dock alone would certainly be much less than one-half, and possibly not more than one-third of the amount proposed to be paid for the whole work, as herein stated. The addition of the pier, to secure it and render it capable of use, would probably not exceed $50,000. These can be completed and ready for use in ten years at most, and may be in fifteen or twenty months, while the addition of the basin and railway will require from four to five years to complete them.

I have the honor to be, with the highest respect, your obedient servant,

WILL. A. GRAHAM.

Hon. HOWELL COBB,
*Speaker of the House of Representatives.*

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No. 7.

NEW YORK, *March* 28, 1851.

SIR: A rumor being abroad that you have concluded to give the contract to Dakin & Co., will induce me to leave for Washington in the morning.

They give out that they deduct $90,000 for excess of charge, and you accept their proposals. The laws, as I understand, authorize you, in case you believe the estimate of last autumn reasonable, to contract, after advertising; but if you do not believe it reasonable, then you cannot contract.

If, therefore, you require them to deduct $90,000, you do not believe it

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reasonable, of course. Besides, you know we made an offer, through the Senate, which reached you, to build the dock for $500,000. This we are still ready to do. We can give the best of security, and quite as responsible as J. D. Dakin, who has, for years, refused to pay his debts, and who owes me a large amount of money, in sustaining him in carrying on his former contract, &c., and of which I cannot collect one cent, and which he pretends to be unable to pay. I therefore appeal to you not to allow him further to wrong me, when I own the patent, and which you will compel me to defend by injunction, at great expense, if you entertain his proposals.

I shall be in Washington on Tuesday morning, God willing.

Respectfully yours,

WILLIAM BALLARD,
For MASON & CO.

Hon. WILL. A. GRAHAM,
*Secretary of the Navy.*

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## No. 8.

### CALIFORNIA DRY-DOCK.

Mason & Company, of New York and Bridgeport, hereby offer to construct and deliver, fit for use, the contemplated sectional dock at or near San Francisco, California, for the sum of four hundred and eighty-eight thousand dollars; the dock to consist of ten sections, to be coppered and copper-fastened, and perfected in eighteen months. The following exhibits, per section, the estimated cost of the various ingredients of the structure, and the subjoined certificates show that it can be performed at these estimates; but whether or not, they hereby offer to give security for the performance of the contract in $150,000, and leave twenty per cent. in deposite as further security, till the work is finished.

*Cost per section.*

| | |
|---|---|
| *Timber*, as per estimate of quantity procured from department - | $8,000 |
| *Labor*, including the framing in New York and setting up, launching and fitting for work in California - - - - - | 9,500 |
| *Machinery*, including steam-power - - - - - - - | 4,000 |
| *Bolts and straps*, all copper below water, large straps and bolts of iron, proved in New York before shipment - - - | 2,500 |
| *Pumps*, actual estimate - - - - - - - - - | 800 |
| *Composition work*, actual weight and estimate - - - - | 3,500 |
| *Coppering* to water-line, 32-ounce copper - - - - | 5,500 |
| *Insurance* around Cape Horn - - - - - - - - | 1,500 |
| *Commissions and charges*, on landing in California - - - | 500 |
| *Freight* around Cape Horn - - - - - - - - | 3,000 |
| *Contingencies* and *superintendence* - - - - - - | 3,000 |
| | 48,800 |

Or, ten sections, $488,000.

MASON & CO.,
Per R. B. MASON.

NEW YORK, *April* 11, 1851.

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The present stock of oak and Georgia pine timber in New York is very small, being the remnants of a very busy season. This past winter has been of unusual activity in jobs requiring large and long timber. There has been a large amount of timber cut, both Georgia pine and oak, got ready to transport to market for the coming season, and will arrive in New York during the months of July and August. Then, and not till then, can large and long timber be procured at any price. In August, extra large and long timber can be had at fair prices, say from thirty cents per cubic foot to fifty cents per cubic foot; the common length and sizes can be had from twenty-five to thirty-five cents per cubic foot.

COLYER & DUGARD.

Sawed dimension timber, as above lengths and sizes, will cost from forty to seventy-five dollars per thousand feet, and common sizes and lengths from thirty-five to forty-five dollars per thousand feet.

C. & D.

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ERA OFFICE, 22 SPRUCE STREET,
*New York, April* 7, 1851.

In reply to your inquiry as to the price of labor in San Francisco, I have to state that I reached that port the 29th day of May last, and left there for New York in the latter part of August following. When I first arrived at Sacramento, labor was very high, but it continued to fall and depreciate in value until I left, at which period labor in and about the city, in some instances, commanded five dollars a day, and ranged from that to three dollars. As far as my observation extends, it was still falling in price. Real estate, and most other things in that country, were and had been for some time on the depreciation. From my acquaintance in the country, labor will continue to depreciate, and may be obtained a year hence, in my opinion, as low as two dollars a day.

Respectfully, yours,

E. W. DUNHAM.

To HENRY M. WESTERN, Esq.

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WASHINGTON, *February* 7, 1851.

DEAR SIR: In answer to your inquiries as to what is a fair price per ton for dead weight from New York to San Francisco, I reply that twenty-five dollars per ton of two thousand two hundred and forty pounds is a full price.

Your obedient servant,

A. G. BENSON.

H. M. WESTERN, Esq.

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STATE OF NEW YORK,
*City and county of New York,* } *ss:*

Roswell B. Mason, of the town of Bridgeport, in the State of Connecticut, being sworn, saith, that he is by profession a civil engineer, and has

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been for many years last past, and now is engaged in and upon various railroads and other public works of magnitude, and is familiar with the structure of work requiring heavy timber, extensive mechanical structure, and the employment of large numbers of men; that such employments have led him to a knowledge of the value of the material employed in such structures, and the probable expense of transportation and freight. Deponent saith that the annexed estimate and offer for the building of a sectional dock at California has been subjected, in all its items, to his careful and critical examination, and that he verily believes that the same can be built, transported to California, put up there, launched, and finished fit for use, at the prices mentioned in the annexed estimate and offer, and within the period of eighteen months from the commencement of the work, and that when so built it will conform to the plans and qualities as communicated to deponent by C. B. Stuart, United States engineer in the city of New York, in the present month of April, and that the sections of said dock will be equal in capacity, capability, workmanship, and material, to the sections of the dock at Philadelphia. Deponent further saith that said offer and proposals are made in good faith, and that he and his associates are prepared to give security for its performance.

R. B. MASON.

Sworn this 11th day of April, 1851.

GEO. L. TAYLOR,
*Commissioner of Deeds.*

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CITY AND COUNTY OF NEW YORK, *ss:*

William Ballard, of the city of New York, machinist, being sworn, saith, that he is a mechanic by trade, and has for several years had an intimate knowledge of the structure and working of the sectional dry-dock, and was one of the persons concerned in, and who built the section dock now in successful operation in the city of New York.

That he is, and for many years past has been, employed in that species of business in said city, and acquainted with the persons engaged in the same, and that he has thus obtained a knowledge of the costs of materials, labor, freight, and other things connected with the annexed estimate.

That he has carefully examined said estimate and offer, and that he verily believes that a sectional dock of ten sections, competent to perform the work required by the government, and each section equal to those of the Philadelphia dock, can be erected and delivered, fit for work, at or near San Francisco, in California, for the sum named.

That he is concerned with Rockwell B. Mason and others in the patent for said sectional dock, and is a party to the offer made to build the same; that said offer is made in good faith, and if accepted by the government, will, as he verily believes, be fully accomplished at the price and within the time designated.

WILL. BALLARD.

Sworn this 11th day of April, 1851.

GEO. L. TAYLOR,
*Commissioner of Deeds.*

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No. 9.

WASHINGTON. *July* 17, 1851.

Mason, Ballard & company, propose to take the contract for building the sectional dry-dock, basin and railway, on the coast of California, on the terms offered by the Secretary of the Navy to Messrs Dakin & Moody. Messrs. M. B. & Co., being considered the servants of the government and under the protection of the principle of the right of the government, to use a patented invention for necessary public purposes upon just compensation.

H. M. WESTON, *Attorney, &c.*

To the Hon. the SECRETARY OF THE NAVY.

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No. 10.

NEW YORK, *May* 23, 1851.

SIR: We were solicited by you, and also by Mr. Stewart to submit offered to contract the dry dock at San Francisco, in pursuance of the law passed at the last session of Congress.

We submitted a proposal and therewith offered to furnish the best of security for the faithful and prompt performance of the contract, and we most respectfully demand that the contract shall be awarded to us, if our proposal is the lowest as the law requires. We make then this statement, because we have received instructions that you have stated the contract cannot be given to us on account of our incapability.

R. B. MASON,
WILL. BALLARD.

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No. 11.

NAVY DEPARTMENT,
*Washington, June* 3, 1851.

GENTLEMEN: I have received your letter of the 23d ult., in relation to the contract for the construction of the dry-dock in California.

As I stated to one of you in conversation at this department some two months since, feeling embarrassed by the contradictory terms, in the act of the last session of Congress, touching this contract, I referred the law to the Attorney General for an opinion upon its interpretation. That opinion was, in substance, that the proviso, in respect to advertisement, was so inconsistent with the previous direction of the statute, that it was to be rejected entirely, provided the Secretary of the Navy should be of opinion that the estimates of the officers of the department, mentioned in the act, were fair and reasonable, and that only in the event that he should arrive at a contrary opinion was an advertisement necessary or proper.

In the interview already mentioned, I informed you that I should act in accordance with this construction of the law by the Attorney General; that the engineer-in-chief of the department was then engaged in reviewing the estimates in question, and upon receiving his report I would propose to Messrs. Dakin & Co. such a modification of the contract referred

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to in the act of Congress as I deemed right; that I thought them entitled, under the law, to accept or refuse it; and that if they did refuse, I would then advertise for proposals, but not until then. Subsequently, on receiving the report of the engineer, I made an offer to Messrs. Dakin & Co, which, upon the best information I could obtain, I deemed fair and reasonable, and which has been accepted and the contract closed.

You are mistaken in the assertion that you were solicited to bid for this contract by me. On the contrary, you were informed that if Dakin & Co. would accept the terms I should propose, after full information and consideration, I thought there was no alternative but to allow them the contract; and you may remember that, in reply to this yov inquired whether I could not provide, in the contract, for the payment of certain amounts which you alleged were due from Mr. Dakin to you, and that I answered, I had no power over that subject, but the courts of justice would no doubt afford all proper relief.

The proposal presented by you, through Mr. Bokee, is far less detailed and definite than I should have felt bound to require before closing a contract, had I been at liberty to consider it at all.

Another gentleman, claiming an exclusive right to the patent for the sectional dock on the Pacific coast, made a proposal at a much less price than you. He, however, admitted that the amount agreed to be paid by the department to Dakin & Co. was not unreasonable for the work actually required to be done, but expected to supply a cheaper construction, which would answer the purpose. I apprehend you will find, on a careful examination, that you have been under a like mistaken impression in your estimates. However this may be, I have simply endeavored to execute the law made for my guidance in the premises, according to the best interpretation and information I could obtain.

I am, very respectfully, your obedient servant,

WILL. A. GRAHAM.

Messrs. R. B. Mason,
Will. Ballard.

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No. 12.

*Extracts from a report relative to an examination of the coast of the United States on the Pacific, by a joint commission of navy and engineer officers, dated San Francisco, November* 1, 1850.

"78. The joint commission were fortunate in discovering a site for a naval depot in the waters of San Francisco bay, and possessed of most of the advantages proper for such an establishment. It is at Mare island, which lies on the north side of the outlet of the Straits of Karquines into San Pueblo bay. The island is several miles in length, and in the widest part nearly a mile. Although the surface is elevated and generally broken, though not abruptly, there is abundant space of level ground at a convenient elevation above the water, and in the most suitable position for the buildings of a naval depot.

"79. On the east side of Mare island are Mare island straits, which are entered from the Straits of Karquines. The soundings through the

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entrance, and generally within the straits, are deep enough for the largest class of vessels-of-war, and this depth is found very near that part of the shore where the docks and buildings of a naval depot would be placed.

"80. The island itself might be defended against any attack, by land or water; but the docks and buildings of the naval depot, as well as the ships moored near them, might be destroyed or greatly injured by the fire of batteries established opposite to them on the eastern shore of Mare island straits.

"81. The heights between Mare Island Straits and Benecia, may be so occupied by fortifications as to prevent the establishment of hostile batteries within bombarding distance of the naval depot. No opinion, to be relied on, could be formed, as to the number or character of those fortifications, or the position they should occupy, without the aid of minute surveys and levellings of the ground."

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# REPORT

OF

# THE SECRETARY OF THE INTERIOR,

SHOWING

*The balances of appropriations for the service of that department on the 1st July, 1850; the appropriations for the fiscal year ending June 30, 1851; the repayments and transfers, with the amounts applicable to the service, during the same period, and the amounts drawn from the treasury; with such appropriations as have been carried to the surplus fund on the 1st July, 1851.*

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MARCH 8, 1852.

Read, referred to the Committee on Finance, and ordered to be printed.

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DEPARTMENT OF THE INTERIOR,
*Washington, March 8, 1852.*

SIR: In obedience to the act of Congress approved May 1, 1820, I have the honor to communicate herewith, a statement of such appropriations for the War Department for the fiscal year ending 30th June, 1851, as were by the act of 3d March, 1849, transferred to this department, showing the balances of appropriations on the 1st July, 1849; the appropriations made for the fiscal year ending 30th June, 1851; the repayments and transfers in same time; the amounts applicable to the service of the year 1850–51; the amounts drawn by requisitions from the treasury in the same period, and the balances on the 1st July, 1851; with such appropriations as have been carried to the surplus fund.

I am, sir, with much respect, your obedient servant,

ALEX. H. H. STUART, *Secretary.*

HON. WM. R. KING,
*President of the Senate of the United States.*

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TREASURY DEPARTMENT,
*Second Comptroller's Office, September 4, 1851.*

SIR: I have the honor to transmit, in duplicate, a statement of such appropriations for the War Department for the fiscal year 1850–'51, as were by the act of March 3, 1849, chapter 108, transferred to the Department of the Interior, which statement shows the balances of the appropriations on the 1st July, 1850; the appropriations made for the fiscal year 1850–'51; the repayments and transfers in the same time; the amounts applicable to the service of year 1850–'51; the amounts drawn by requisitions from the

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treasury in the same period; and, finally, the balances on the 1st July, 1851, with such appropriations as have been carried to the surplus fund: prepared in pursuance of an act of Congress, approved 1st May, 1820.

Very respectfully, sir, your obedient servant,

HILAND HALL, *Comptroller.*

Hon. A. H. H. STUART,
*Secretary of the Interior.*

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*Statement of such appropriations for the service of the War Department, from July 1, 1850, to June 30, 1851, as were, by the act of March 8, 1849, (chap. 108,) transferred to the Department of the Interior: made pursuant to the provisions of the second section of the act of Congress of May 1, 1820, entitled "An act in addition to the several acts for the establishment and regulation of the Treasury, War, and Navy Departments."*

| HEADS OF APPROPRIATIONS. | Balances of appropriations July 1, 1850. | Appropriations for the fiscal year 1850–'51. | Repayments from July 1, 1850, to June 30, 1851. | Amounts applicable to the service of the fiscal year 1850–'51. | Amounts drawn by requisitions from the treasury during the fiscal year 1850–'51. | Balance June 30, 1851. |
|---|---|---|---|---|---|---|
| Arrearages of annuities, &c., due Cherokees. Act of June 12, 1838 | $255 96 | $39,871 92 | ..... | $40,127 88 | $21,074 04 | $19,053 84 |
| Awards for improvements surrendered by Senecas of New York, per 5th article of May 20, 1842 | 15,032 68 | ..... | ..... | 15,032 68 | ..... | *15,032 68 |
| Arrearages of compensation to agents for Indian tribes of California | ..... | 6,750 00 | ..... | 6,750 00 | 4,500 00 | 2,250 00 |
| Additional amount for expenses paid for subsistence, and improperly charged to the treaty fund, according to the award of the United States Senate of September 5, 1850, under provisions of 11th article treaty of Aug. 6, 1846 | ..... | 189,422 76 | ..... | 189,422 76 | 442 13 | 188,980 63 |
| Current expenses of Indian department | 925 51 | 15,083 43 | $157 74 | 16,166 68 | 11,758 03 | 4,408 65 |
| Contingencies of Indian department | 417 38 | 36,500 00 | 133 20 | 37,050 58 | 35,972 48 | 1,078 10 |
| Clerk-hire for superintendent at St. Louis and Western Territory | ..... | 2,200 00 | ..... | 2,200 00 | 1,700 00 | 500 00 |
| Civilization of Indians | 12,692 16 | 10,000 00 | ..... | 22,692 16 | 10,590 00 | 12,102 16 |
| Compensation to an agent and two interpreters to the wild Indians of the prairie | 1,426 16 | 3,200 00 | ..... | 4,626 16 | 1,825 00 | 2,801 16 |
| Carrying into effect treaty with Western Cherokees of December 29, 1835. Act of 1836 | 92,772 75 | ..... | 78 56 | 92,851 81 | 30,822 86 | 62,028 95 |

* Carried to surplus fund September 8, 1850.





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## STATEMENT—Continued.

| HEADS OF APPROPRIATIONS. | Balances of appropriations July 1, 1850. | Appropriations for the fiscal year 1850-'51. | Repayments from July 1, 1850, to June 30, 1851. | Amounts applicable to the service of the fiscal year 1850-'51. | Amounts drawn by requisitions from the treasury during the fiscal year 1850-'51. | Balance June 30, 1851. |
|---|---|---|---|---|---|---|
| Carrying into effect treaty with Western Cherokees. Act of June 28, 1834 | $146 60 | ..... | ..... | $146 60 | ..... | $146 60 |
| Contingent expenses of commissioners to adjust claims to reservations under the 14th and 19th articles of Choctaw treaty of 1830 | 4,102 19 | ..... | ..... | 4,102 19 | ..... | 4,102 19 |
| Carrying into effect treaty with the Chippewas of October 4, 1842 | 111 22 | ..... | ..... | 111 22 | $7 49 | 103 73 |
| Commissioner to issue certificates for claims against Chippewas, Ottowas, and Pottawatomies, &c. Act of July 29, 1848 | 1,663 75 | ..... | ..... | 1,663 75 | 246 25 | 1,417 50 |
| Carrying into effect treaties with Ottowas and Chippewas | 118 04 | ..... | ..... | 118 04 | ..... | 118 04 |
| Compensation and expenses of committee of "Old Settler Party" of Cherokees, their clerks, &c | ..... | $3,000 00 | ..... | 3,000 00 | 1,235 00 | 1,765 00 |
| Claims of Western Cherokees for stock lost | ..... | ..... | $69 00 | 69 00 | ..... | 69 00 |
| Carrying into effect treaty with Sacs and Foxes of Mississippi of October 11, 1842 | ..... | 288 99 | ..... | 288 99 | 28 00 | 260 99 |
| Compensation of commissioner to negotiate with Wyandots | ..... | 216 00 | ..... | 216 00 | 216 00 | |
| Compensation of three special agents and four interpreters for the Indian tribes of Texas | ..... | 15,000 00 | ..... | 15,000 00 | 9,949 75 | 5,050 25 |
| Defraying expenses of Oneida delegation, &c | ..... | 1,000 00 | ..... | 1,000 00 | 1,000 00 | |
| Expenses of collecting and digesting statistics of Indian tribes of the United States | 8,069 89 | 29,861 00 | ..... | 32,430 89 | 14,668 06 | 17,762 83 |
| Expenses of a mission to the wild Indians of the prairie, &c | 9,588 16 | ..... | ..... | 9,588 16 | 351 28 | 9,186 88 |
| Expenses of an agent in taking the census of the North Carolina Cherokees | 126 00 | 1,500 00 | ..... | 1,626 00 | 126 00 | 1,500 00 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| Expenses of marking northern and northwestern boundary of Creek country | 1,928 81 | 10,072 00 | | 12,000 81 | 12,000 81 | |
| Expenses of certain Chippewa Indians and their interpreters. | 1,000 00 | | | 1,000 00 | | 1,000 00 |
| Expenses of Seminole Indians from west to Florida, and of other agents engaged in an attempt at pacification. Act of March 2, 1841 | 1,364 41 | 1,611 30 | | 2,975 71 | | 2,975 71 |
| Expenses of holding treaty with Sac, Fox, Winnebago, and Sioux tribes of Indians for their title to lands in Iowa | | | 648 27 | 648 27 | | 648 27 |
| Expenses of removal and subsistence of Pottawatomies of Indiana | 38,538 60 | | | 38,538 60 | | 38,538 60 |
| Expenses of removal of Winnebagoes | 36,526 98 | | | 36,526 98 | 36,526 98 | |
| Expenses of a delegation of Winnebagoes, &c | | | 1,345 48 | 1,345 48 | | 1,345 48 |
| Expenses of negotiating treaties with Indian tribes of Oregon. | 25,000 00 | 15,000 00 | 750 00 | 40,750 00 | 40,750 00 | |
| Expenses of negotiating treaties with Chippewas—ratified in 1848 | | 1,500 00 | | 1,500 00 | 1,050 75 | 449 25 |
| Expenses of marking eastern boundary of country set apart to Choctaws | 3,462 00 | | | 3,462 00 | | 3,462 00 |
| Expenses of removal of sub-agency of Chippewas of Lake Superior and Mississippi from old site at Deposite to new one, &c | | 3,000 00 | | 3,000 00 | 3,000 00 | |
| Expenses of removing the Pottawatomies, Sacs and Foxes from Iowa west of the Mississippi | | 2,000 00 | | 2,000 00 | | 2,000 00 |
| Expenses of treating with Mississippi and St. Peter Sioux for the extinguishment of their titles to land in Minnesota | | 15,000 00 | | 15,000 00 | 15,000 00 | |
| Expenses of portioning lands of Stockbridge Indians. (Indefinite) | | 571 00 | | 571 00 | 571 00 | |
| Expenses of procuring information and collecting statistics for Indian bureau, &c., and for making treaties with and presents to various tribes of Indians within the limits of the United States on the borders of Mexico | | 30,000 00 | | 30,000 00 | 30,000 00 | |
| Expenses of revising, &c., new code of regulations for Indian department | | 3,000 00 | | 3,000 00 | | 3,000 00 |
| Expenses of treating with Indian tribes and half-breeds for the relinquishment of their titles to lands on the Red river of the north | | 10,000 00 | | 10,000 00 | 10,000 00 | |
| Expenses of holding treaties with wild tribes of the prairie, and for bringing delegate on to the seat of government | | 100,000 00 | | 100,000 00 | 98,800 00 | 1,200 00 |
| Fulfilling treaties with various Indian tribes. Act of 1843. | 14,346 38 | | | 14,346 38 | | 14,346 38 |
| Fulfilling treaties with Cherokees | 1,955 87 | | 112 00 | 2,067 87 | 249 00 | 1,818 87 |
| Fulfilling treaties with Chickasaws | 12,665 33 | 3,000 00 | 9 74 | 15,675 07 | | 15,675 07 |



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## STATEMENT—Continued.

| HEADS OF APPROPRIATIONS. | Balances of appropriations July 1, 1850. | Appropriations for the fiscal year 1850–'51. | Repayments from July 1, 1850, to June 30, 1851. | Amounts applicable to the service of the fiscal year 1850–'51. | Amounts drawn by requisitions from the treasury during the fiscal year 1850–'51. | Balance June 30, 1851. |
|---|---|---|---|---|---|---|
| Fulfilling treaties with Creeks | $43,481 80 | $67,897 85 | ..... | $111,379 15 | $63,694 83 | $47,684 32 |
| Fulfilling treaties with Choctaws | 35,108 98 | 43,945 00 | ..... | 79,053 98 | 32,285 00 | 46,818 98 |
| Fulfilling treaties with Chippewas of Saginaw | 5,437 08 | 5,800 00 | ..... | 11,237 08 | 5,997 00 | 5,240 08 |
| Fulfilling treaties with Chippewas of Lake Superior and Mississippi of October 4, 1842 | 60,752 52 | 76,782 29 | $2,025 75 | 139,560 56 | 84,804 31 | 54,756 25 |
| Fulfilling treaties with Chippewas, Ottowas, and Pottawatomies | 160 00 | ..... | ..... | 160 00 | ..... | *160 00 |
| Fulfilling treaties with Christian Indians | 400 00 | 400 00 | ..... | 800 00 | 400 00 | 400 00 |
| Fulfilling treaties with Chippewas, Menomonies, Winnebagoes, and New York Indians | 2,664 17 | 1,500 00 | ..... | 4,164 17 | 750 00 | 3,414 17 |
| Fulfilling treaty of May 15, 1846, with Comanches and others | 10,000 00 | ..... | ..... | 10,000 00 | ..... | 10,000 00 |
| Fulfilling treaties with Delawares | 9,172 50 | 10,244 00 | ..... | 19,416 50 | 10,164 00 | 9,252 50 |
| Fulfilling treaties with Florida Indians | 45,559 42 | 7,000 00 | ..... | 52,559 42 | 9,132 35 | 43,427 07 |
| Fulfilling treaties with Iowas | 2,547 50 | 9,375 00 | ..... | 11,922 50 | 7,875 00 | 4,047 50 |
| Fulfilling treaties with Kanzas | 10,472 11 | 18,707 21 | ..... | 29,179 32 | 13,940 00 | 15,239 32 |
| Fulfilling treaties with Kickapoos | 5,000 00 | 5,000 00 | ..... | 10,000 00 | 5,000 00 | 5,000 00 |
| Fulfilling treaties with Menomonies | 72,351 43 | 26,430 00 | ..... | 98,781 43 | 24,890 00 | 73,891 43 |
| Fulfilling treaties with Miamies | 44,895 88 | 42,580 00 | ..... | 87,475 88 | 49,826 35 | 37,649 48 |
| Fulfilling treaties with Miamies of November 28, 1840. Act of July 17, 1842 | 11,198 84 | ..... | ..... | 11,198 84 | ..... | 11,198 84 |
| Fulfilling treaties with Eel river Miamies | 762 92 | 1,100 00 | ..... | 1,862 92 | ..... | 1,862 92 |
| Fulfilling treaties with Omahas | 400 00 | 1,440 00 | ..... | 1,840 00 | 1,440 00 | 400 00 |
| Fulfilling treaties with Osages | 15,876 18 | 47,850 25 | ..... | 63,726 43 | 24,854 03 | 38,872 40 |
| Fulfilling treaties with Ottoes and Missourias | 7,845 25 | 2,040 00 | ..... | 9,525 25 | 4,440 00 | 5,085 25 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| Fulfilling treaties with Ottowas | 4,334 00 | 4,800 00 | | 8,634 00 | 4,800 00 | 4,334 00 |
| Fulfilling treaties with Ottowas and Chippewas | 51,267 43 | 62,252 16 | 342 90 | 113,852 49 | 58,190 00 | 55,662 49 |
| Fulfilling treaties with Pawnees | 6,386 27 | 1,000 00 | | 7,386 27 | 1,155 59 | 6,180 68 |
| Fulfilling treaties with Plankeshaws | 800 00 | 800 00 | | 1,600 00 | 800 00 | 800 00 |
| Fulfilling treaties with Pottawatomies | 48,747 78 | 147,380 00 | 89 44 | 196,117 22 | 112,136 22 | 83,981 00 |
| Fulfilling treaties with Pottawatomies of Huron | 400 00 | 400 00 | | 800 00 | 400 00 | 400 00 |
| Fulfilling treaties with Quapaws | 8,350 22 | 4,900 00 | | 8,250 22 | 3,950 00 | 4,300 22 |
| Fulfilling treaties with Sacs and Foxes of the Mississippi | 78,451 30 | 78,680 00 | | 147,131 30 | 73,695 88 | 73,435 42 |
| Fulfilling treaties with Sacs and Foxes of Missouri | 7,005 08 | 7,870 00 | | 14,875 08 | 6,950 00 | 7,925 08 |
| Fulfilling treaties with Senecas | 1,517 55 | 2,760 00 | | 4,277 55 | 1,830 00 | 2,447 55 |
| Fulfilling treaties with Senecas of New York | 5,029 10 | 9,750 00 | | 14,779 10 | 5,017 91 | 9,761 19 |
| Fulfilling treaties with Senecas and Swances | 1,611 80 | 2,060 00 | | 3,671 80 | 1,530 00 | 2,141 80 |
| Fulfilling treaties with Shawnees | 2,445 63 | 4,120 00 | | 6,565 63 | 3,124 03 | 3,441 60 |
| Fulfilling treaties with Six Nations of New York | 1,814 88 | 4,500 00 | | 6,314 88 | 4,457 43 | 1,857 45 |
| Fulfilling treaties with Sioux of Mississippi | 52,809 71 | 38,750 00 | 158 10 | 91,717 81 | 72,962 37 | 18,755 44 |
| Fulfilling treaties with Yancton and Santie Sioux | 670 00 | | | 670 00 | | 670 00 |
| Fulfilling treaties with Weas | 3,000 00 | 3,000 00 | | 6,000 00 | 3,000 00 | 3,000 00 |
| Fulfilling treaties with Winnebagoes | 62,189 53 | 138,398 49 | | 200,588 02 | 127,268 93 | 73,269 09 |
| Fulfilling treaties with Wyandots | 7,970 84 | 208,802 53 | 877 09 | 217,150 46 | 207,599 18 | †9,551 28 |
| Fulfilling treaties with Utahs | | 18,000 00 | | 18,000 00 | | 18,000 00 |
| Fulfilling treaties with Shawnees. Act 9th January, 1887, (proceeds of lands) | 3,116 44 | 1,560 26 | | 4,677 70 | 4,677 70 | |
| Fulfilling treaties with Navajoes | | 18,000 00 | | 18,000 00 | | 18,000 00 |
| Fulfilling treaties with Cherokees. Act 9th January, 1837. Proceeds of school lands, per treaty of 1819 | | 6,782 95 | | 6,782 95 | 6,742 50 | 40 45 |
| Holding treaties with various Indian tribes of California | | 50,000 00 | | 50,000 00 | 50,000 00 | |
| Houses for agents, &c | 3,694 78 | 16,300 00 | 4 50 | 19,999 28 | 15,145 72 | 4,853 56 |
| Holding treaties with Menomonies for their lands north of Fox river | 1,019 70 | | | 1,019 70 | | ‡1,019 70 |
| Interest on investments, &c., due Indian tribes, and reimbursable | | 19,080 00 | | 19,080 00 | 19,080 00 | |
| Interest on awards to Choctaw claimants, &c., for 1845, 1846, 1847 | 13,026 39 | 87,200 00 | | 100,226 39 | 33,592 42 | 66,633 97 |
| Liquidating and paying certain claims of the State of Virginia. (Indefinite) | | 66,807 91 | | 66,807 91 | | 66,807 91 |
| Management of Indian affairs in Oregon Territory | 10,000 00 | | | 10,000 00 | 10,000 00 | |
| Medals for Indian chiefs | 104 12 | 1,500 00 | | 1,604 12 | 1,500 00 | 104 12 |
| Pension fund, (navy) | 59,278 48 | 36,461 82 | | 95,740 30 | 8,111 84 | 87,628 46 |
| Pension fund, (privateer) | 718 92 | 3,000 00 | | 3,718 92 | 3,166 00 | 522 92 |

* Carried to surplus fund. † 828 09 of this carried to surplus fund. ‡ Carried to surplus fund September 3, 1850.





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## STATEMENT—Continued.

| HEADS OF APPROPRIATIONS. | Balances of appropriations July 1, 1850. | Appropriations for the fiscal year 1850–'51. | Repayments from July 1, 1850, to June 30, 1851. | Amounts applicable to the service of the fiscal year 1850–'51. | Amounts drawn by requisitions from the treasury during the fiscal year 1850–'51. | Balance June 30, 1851. |
|---|---|---|---|---|---|---|
| Pensions, invalid, (navy) | $46,303 80 | $40,000 00 | $4,454 96 | $90,758 76 | $32,885 41 | $57,873 35 |
| Pensions to widows and orphans, (navy.) Act 2d March, 1849 | 161 00 | ..... | 7,864 04 | 8,025 04 | 5,570 00 | 2,455 04 |
| Pensions to widows, (navy.) Act 11th August, 1848. (Indefinite) | ..... | 117,865 61 | 1,962 03 | 119,827 64 | 119,827 64 | |
| Pensions, revolutionary. Act of March 18, 1818 | 16,403 84 | 47,883 00 | 19,862 73 | 84,149 07 | 34,506 44 | 49,642 63 |
| Pensions, invalid. Act of 1818 | 26,683 84 | 463,000 00 | 4,845 52 | 494,529 36 | 473,625 33 | 20,904 03 |
| Pensions. Act of May 15, 1828. (Indefinite) | ..... | 17,770 90 | 1,822 70 | 19,593 60 | 19,593 60 | |
| Pensions. Act of June 7, 1832. (Indefinite) | ..... | 249,811 04 | 63,110 18 | 312,921 22 | 312,921 22 | |
| Pensions. Act of July 4, 1836 | 30,986 78 | 435,420 00 | 2,161 46 | 468,568 24 | 434,248 34 | 34,319 90 |
| Pensions. Act of March 3, 1843 | 7,981 47 | 32,000 00 | 2,682 96 | 42,664 43 | 36,279 07 | 6,385 36 |
| Pensions. Act of May 20, 1830 | 201 62 | ..... | ..... | 201 62 | ..... | 201 62 |
| Pensions. Act of July 21, 1848 | 40,200 00 | ..... | ..... | 40,200 00 | 40,200 00 | |
| Pensions. Act of February 2, 1848 | 98,463 38 | 628,000 00 | 2,662 99 | 729,126 37 | 711,774 84 | 17,351 53 |
| Pensions, unclaimed. Act of April 6, 1838. (Indefinite) | ..... | 16,525 85 | ..... | 16,525 85 | 16,525 85 | |
| Pensions, half-pay, payable through Third Auditor's office | 10,005 12 | 18,410 00 | ..... | 28,415 12 | 5,542 54 | 22,872 58 |
| Pensions (five years') to widows. Act July 7, 1838 | ..... | 116,000 00 | 16,919 41 | 182,919 41 | 95,291 94 | 87,627 47 |
| Payment to So-le Emarthla, a Seminole Indian, amount stolen from him by United States soldiers | ..... | 125 00 | ..... | 125 00 | 125 00 | |
| Payment to David Taylor, representative of Cal-sut-te-hec, or Hog | ..... | 70 87 | ..... | 70 87 | 70 87 | |
| Payment to Cherokee Nation the sum of $724,608 87, and interest thereon, at 5 per cent. per annum, from June 12, 1838, until paid | ..... | 724,608 87 | ..... | 724,608 87 | ..... | 724,608 87 |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Payment to Central Bank of Georgia, assignees of W. H. Jarnegan & Co. and others | ..... | 21,044 00 | ..... | 21,044 00 | 21,044 00 | |
| Payment to the surviving chiefs of McIntosh party of Creek Indians | ..... | 89,901 67 | ..... | 89,901 67 | 89,901 67 | |
| Payment to L. A. Thomas and Thomas Rodgers for services rendered in defence of two Sioux Indians | ..... | 500 00 | ..... | 500 00 | 500 00 | |
| Payment to Henry M. Rice for expenses as one of the delegates from Winnebago nation | ..... | 670 00 | ..... | 670 00 | 670 00 | |
| Payment to "Old Settlers," or Western Cherokees, per fourth article of the treaty of 6th August, 1846 | ..... | 887,480 15 | ..... | 887,480 15 | 887,480 15 | |
| Payment to Henry M. Rice for articles of outfit furnished to Winnebago delegation | ..... | 762 10 | ..... | 762 10 | 762 10 | |
| Payment to Richard Chute for articles of outfit furnished to Winnebago delegation | ..... | 700 05 | ..... | 700 05 | 700 05 | |
| Payment to the Winnebagoes the sum erroneously charged to the fund of $10,000, set apart by 8th clause of 4th article of treaty 1st November, 1837 | ..... | 6,228 28 | ..... | 6,228 28 | 6,228 28 | |
| Payment of the awards of Gen. W. B. Mitchell, commissioner under the treaty of Chicago of September 26, 1833 | ..... | 88,589 32 | ..... | 88,589 32 | 84,433 46 | 4,155 86 |
| Payment to Baptist Powlis, &c., per 13th article of treaty with Six Nations of New York, of 15th January, 1838 | 4,000 00 | ..... | ..... | 4,000 00 | 4,000 00 | |
| Payment to William Day, per same treaty | 2,000 00 | ..... | ..... | 2,000 00 | 2,000 00 | |
| Payment to Cherokee Nation, for printing press, &c., destroyed. Act of 1847 | 1,145 21 | ..... | ..... | 1,145 21 | ..... | 1,145 21 |
| Payment to Cherokees for improvements abandoned under treaty of May 6, 1828. (Reappropriated, act of March 1, 1847.) | 343 60 | ..... | ..... | 343 60 | ..... | 343 60 |
| Payment to North Carolina Cherokees, under 4th and 5th sections of the act of July 29, 1848. (Indefinite.) | ..... | 8,011 68 | ..... | 8,011 68 | 8,011 68 | |
| Payment of improvements on lands ceded by Miamies | 8,000 68 | ..... | ..... | 8,000 68 | ..... | 8,000 68 |
| Payment of the expenses of removal and subsistence of Creek Indians, and to reimburse other appropriations used for removal and subsistence | 7,831 51 | ..... | ..... | 7,831 51 | 1,155 00 | 6,676 51 |
| Payment to the Creek Nation of Indians of a balance claimed by them of the award for claims for citizens of Georgia, &c. Act of 1848 | 112,844 78 | ..... | ..... | 112,844 78 | 28,211 18 | 84,633 55 |
| Payment to the emigrant New York Indians, who went west in 1846. Act of March 3, 1849 | 478 65 | ..... | ..... | 478 65 | ..... | *478 65 |

* Carried to surplus fund September 8, 1850.





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## STATEMENT—Continued.

| HEADS OF APPROPRIATIONS. | Balances of appropriations July 1, 1850. | Appropriations for the fiscal year 1850–'51. | Repayments from July 1, 1850, to June 30, 1851. | Amounts applicable to the service of the fiscal year 1850–'51. | Amounts drawn by requisitions from the treasury during the fiscal year 1850–'51. | Balance June 30, 1851. |
|---|---|---|---|---|---|---|
| Pay of superintendents and Indian agents | $1,518 24 | $28,000 00 | ..... | $29,518 24 | $13,562 15 | $15,956 09 |
| Pay of sub-agents of Indian department | 2,167 44 | 12,750 00 | $36 54 | 14,953 98 | 10,687 96 | 4,266 02 |
| Pay of interpreters of Indian department | 2,439 20 | 13,000 00 | 414 42 | 15,853 62 | 10,400 83 | 5,452 79 |
| Presents for Indians | 5,006 76 | 5,000 00 | 755 80 | 10,762 56 | 5,919 87 | 4,842 69 |
| Provisions for Indians | 18,287 97 | ..... | ..... | 18,287 97 | 1,500 37 | 16,786 60 |
| Purchase of presents for the Comanches and other wild tribes of the Prairie | 1,387 60 | ..... | ..... | 1,387 60 | 1,387 60 | |
| Redemption of the daughter of Mr. and Mrs. James M. White, captured by Indians on border of New Mexico | ..... | 1,500 00 | ..... | 1,500 00 | 500 00 | 1,000 00 |
| Removal and subsistence of Seminole Indians, now in Florida West, &c | ..... | 200,000 00 | ..... | 200,000 00 | ..... | 200,000 00 |
| Removal and subsistence of Chippewas of Lake Superior and Mississippi from old site, at Deposit, to new one, &c. | ..... | 50,000 00 | ..... | 50,000 00 | 20,000 00 | 30,000 00 |
| Repayment of money to State of Virginia, and for half-pay. Act of 1848 | 4,056 89 | ..... | ..... | 4,056 89 | ..... | 4,056 89 |
| Removal and subsistence of Indians. Act of 1836; reappropriated in 1839 | 59,532 62 | 52,510 37 | ..... | 112,042 99 | 112,042 99 | |
| Removal of Cataba Indians. Act of July 29, 1848 | 5,000 00 | ..... | ..... | 5,000 00 | ..... | 5,000 00 |
| Removal of Choctaws west of the Mississippi. Act of 1848, &c | 38,254 44 | 20,000 00 | ..... | 58,254 44 | 16,184 36 | 42,070 08 |
| Removal, &c., of Seminole Indians (Florida Indians) as surrender for emigration. Act of February 18, 1841 | 1,680 62 | ..... | ..... | 1,680 62 | 170 00 | 1,510 62 |
| Ransoming two white boys (Gillis Doyle and Thomas Pearce) from Comanches | 200 00 | ..... | ..... | 200 00 | ..... | 200 00 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| Removal of 250 New York Indians west of Mississippi river | 11,018 42 | | | 11,018 42 | | 11,018 42 |
| Subsistence of Choctaw claimants, &c., under 14th and 15th articles of treaty of Dancing Rabbit, in September, 1830 | 550 75 | | | 550 75 | | 550 75 |
| Trust fund.—Interest on investment in stocks for Cherokee schools | 7,252 20 | 1,665 02 | | 8,917 22 | 7,901 99 | 1,015 23 |
| Trust fund.—Interest on investment in stocks for Cherokee treaty of 1835 | 39,661 27 | 32,220 93 | | 71,882 20 | 53,732 80 | 18,149 40 |
| Trust fund.—Interest on investment in stocks for Creek orphans | 14,247 94 | 9,319 04 | | 23,566 98 | 3,600 00 | 19,966 98 |
| Trust fund.—Interest on bonds for Choctaw orphans | 3,197 50 | 23,000 00 | | 26,197 50 | 23,417 23 | 2,780 27 |
| Trust fund.—Interest on investment in stocks for Choctaws. (Education) | 5,234 38 | 4,770 93 | | 10,005 31 | 2,803 88 | 7,201 43 |
| Trust fund.—Interest on investment for Choctaws under their convention with Chickasaws | 25,000 00 | | | 25,000 00 | 25,000 00 | |
| Trust fund.—Interest on investment in stocks for mills, for Chippewas, Ottowas, and Pottawatomies | 8,123 97 | 6,902 22 | | 15,026 19 | | 15,026 19 |
| Trust fund.—Interest on investment in stocks for education, for Chippewas, Ottowas, and Pottawatomies | 3,723 40 | 692 98 | | 4,416 38 | | 4,416 38 |
| Trust fund.—Interest on investment in stocks for Delawares | 122 18 | 468 38 | | 590 51 | 468 36 | 122 15 |
| Trust fund.—Interest on investment in stocks for Kansas schools | 5,892 91 | 1,476 53 | | 7,369 44 | | 7,369 44 |
| Trust fund.—Interest on investment in stocks for Menomonies | 9,202 82 | 6,841 15 | | 16,043 97 | | 16,043 97 |
| Trust fund.—Interest on investment in stocks for Osages | 5,674 38 | 1,850 76 | | 7,525 14 | | 7,525 14 |
| Trust fund.—Interest on investment in stocks for Ottowas and Chippewas | 3,043 93 | 6,145 03 | | 9,188 96 | 6,038 00 | 3,150 96 |
| Trust fund.—Interest on investment in stocks for Senecas | 125 00 | 250 00 | | 375 00 | 250 00 | 125 00 |
| Trust fund.—Interest on investment in stocks for Senecas and Shawnees | 342 50 | 867 06 | | 1,209 56 | 803 03 | 406 53 |
| Trust fund.—For Senecas of New York, per 8d article of treaty of May 20, 1842 | 246 47 | | | 246 47 | 138 26 | 108 21 |
| Trust fund.—Interest on investments in stocks for Shawnees | 4,917 56 | 960 99 | | 5,878 55 | 5,361 38 | 517 17 |
| Trust fund.—Interest on investment in stocks for Stockbridges and Munsees | | 312 26 | | 312 26 | | 312 26 |
| Trust fund.—Interest due on investments in stocks for Chippewas of Swan Creek | | 293 48 | | 293 48 | | 293 48 |
| Trust fund.—Interest due on investments in stocks for Ottowas of Blanchard's Fork, &c | | 392 52 | | 392 52 | | 392 52 |





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## STATEMENT—Continued.

| HEADS OF APPROPRIATIONS. | Balances of appropriations July 1, 1850. | Appropriations for the fiscal year 1850–'51. | Repayments from July 1, 1850, to June 30, 1851. | Amounts applicable to the service of the fiscal year 1850–'51. | Amounts drawn by requisitions from the treasury during the fiscal year 1850–'51. | Balance June 30, 1851. |
|---|---|---|---|---|---|---|
| Trust fund.—Interest on investments in stocks for Ottowas of Roche De Bœng | ..... | $82 52 | ..... | $82 52 | ..... | $82 52 |
| Blacksmith's establishment | $195 18 | ..... | ..... | 195 18 | ..... | 195 18 |
| Exchange of lands, &c. Act of May 28, 1830; reappropriated March 2, 1833 | 50 28 | ..... | ..... | 50 28 | ..... | 50 28 |
| Relief of P. Chouteau & Co | ..... | 7,171 72 | ..... | 7,171 72 | ..... | *7,171 72 |
| Fulfilling treaties with Chippewas of the Mississippi | 1,447 09 | ..... | ..... | 1,447 09 | ..... | 1,447 09 |
| Holding treaties with Pottawatomies of Missouri | 995 89 | ..... | ..... | 995 89 | ..... | *995 89 |
| Fulfilling treaty with Stockbridges | 13,650 00 | 825 00 | $150 00 | 14,625 00 | ..... | 14,625 00 |
| | 1,804,439 29 | 6,405,748 85 | 138,057 51 | 8,348,245 65 | 5,320,244 22 | 8,028,001 43 |

* Carried to surplus fund.



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## RECAPITULATION.

| | | |
|---|---|---|
| Amount applicable to the service of the fiscal year 1850-'51, as per aggregate of fourth colun.n | | $8,348,245 65 |
| From which deduct amount of refunding and transfer requisitions, as per third column | | 138,057 51 |
| Will show the amount actually applicable to the above period | | 8,210,188 14 |
| From which deduct the amount drawn by requisitions from the treasury, as per aggregate of fifth column | $5,320,244 22 | |
| From which last sum deduct amount drawn by refunding and transfer requisitions, as per third column | 138,057 51 | |
| | | 5,182,186 71 |
| Will leave the aggregate of the sixth column of balances, on the 30th June, 1851 | | 3,028,001 43 |

TREASURY DEPARTMENT,
*Second Comptroller's Office, September 4*, 1851.

HILAND HALL, *Comptroller.*

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32d CONGRESS, 1st Session. [SENATE.] Ex. Doc. No. 46.

# REPORT

OF

# THE SECRETARY OF STATE,

ACCOMPANIED

*By lists of the clerks and other persons employed in that department during the year* 1851, *and the amount paid to each.*

MARCH 8, 1852.
Ordered to be printed.

DEPARTMENT OF STATE,
*Washington, March* 4, 1852.

The Secretary of State, in obedience to the act to regulate and fix the compensation of clerks in the different offices, approved on the 20th of April, 1818, and to the 11th section of an "act legalizing and making appropriations for such necessary objects as have usually been included in the general appropriation bills without authority of law, and to fix and provide for certain incidental expenses of the departments and offices, and for other purposes," approved on the 26th of August, 1842, respectfully reports the accompanying statements, (A, B, and C,) containing, in addition to the information required by those acts, that called for by a resolution of the House of Representatives of the 13th of January, 1846.

The services of the clerks permanently employed under existing laws, could not be dispensed with without injury to the public interests.

DAN'L WEBSTER.

Hon. WILLIAM R. KING,
*President of the Senate pro tempore.*

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## A.

*List of clerks employed in the Department of State during the year* 1851, *as authorized by the acts of April* 23, 1830, *May* 9, 1836, *and August* 12, 1848.

| Names. | Grade. | Time employed. | State or Territory of residence when appointed. | Amount paid. |
|---|---|---|---|---|
| William S. Derrick | Chief clerk | The year | Pennsylvania | $2,000 00 |
| William Hunter | Clerk of claims | ....do | Rhode Island | 2,000 00 |
| Francis Markoe | Clerk | ....do | Pennsylvania | 1,800 00 |
| Louis F. Tasistro | Translator and librarian | ....do | District of Columbia | 1,600 00 |
| Alexander H. Derrick | Clerk | ....do | Pennsylvania | 1,550 00 |
| William C. Zantzinger | Disbursing agent | ....do | District of Columbia | 1,450 00 |
| Robert S. Chew | Clerk | ....do | Virginia | 1,700 00 |
| William C. Reddall | ...do | ....do | District of Columbia | 1,400 00 |
| W. L. J. Kidorlen | ...do | ....do | Ohio | 1,400 00 |
| James S. Mackie | ...do | ....do | Maryland | 1,400 00 |
| Oliver K. Barrell | ...do | 31 days | Delaware | 120 55 |
| George J. Abbot | ...do | The year | District of Columbia | 1,400 00 |
| Thomas L. Forrest | ...do | 333 days | Illinois | 1,279 44 |
| Charles E. Weaver | ...do | 273 days | Pennsylvania | 750 00 |
| John P. Polk | ...do | The year | Pennsylvania | 1,025 00 |
| Charles Lanman | ...do | 92 days | Michigan | 350 00 |
| Henry Sargent | ...do | 270 days | Massachusetts | 758 70 |
| Richard M. Dawes | ...do | 167 days | District of Columbia, (temporary.) | 396 46 |
| Henry D. J. Pratt | ...do | 61 days | Massachusetts | 132 61 |



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B.

*Messenger and assistant messenger employed under the act of May 26, 1824.*

| Names. | Grade. | Time employed. | State or Territory of residence when appointed. | Amount paid. |
|---|---|---|---|---|
| George Bartle | Messenger | The year | Virginia | $700 00 |
| William H. Prentiss | Assistant messenger | ....do | District of Columb.a | 350 00 |



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C.

*List of persons employed as packer, laborers, &c., in the Department of State, during the year* 1851.

| Names. | Occupation. | Time employed. | Residence when appointed. | Amount paid. |
|---|---|---|---|---|
| William P. Faherty | Packer and distributor of laws and documents, proof-reader | The year | District of Columbia | $1,000 00 |
| Anthony Best | Laborer | ....do | New York | 360 00 |
| James Martin | ....do | ....do | District of Columbia | 360 00 |
| Charles H. Brown | ....do | ....do | ....do.....do | 360 00 |
| James Williamson | ....do | 197 days | ....do.....do | 194 67 |
| Calvin Ames | ....do | 349..do | Massachusetts | 346 00 |
| E. W. Hansell | ....do | 167..do | District of Columbia | 165 33 |
| John T. Stanley | ....do | 81...do | ....do.....do | 81 00 |
| J. W. Prender | ....do | 47...do | ....do.....do | 45 98 |
| W. A. Scott | ....do | 6....do | Maryland | 6 00 |
| W. J. Fitzpatrick | Extra clerk | 41...do | District of Columbia | 123 00 |
| C. P. Smith | ....do | 27...do | New Hampshire | 81 00 |
| Charles U. Gordon | ....do | 70...do | District of Columbia | 210 00 |
| O. K. Barrell | ....do | 27...do | Delaware | 81 00 |



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32d Congress, 1st Session. [SENATE.] Ex. Doc. No. 47.

# REPORT

OF

# THE SECRETARY OF STATE,

SHOWING

*The disbursements for the service of the State Department, including foreign missions, for the year ending June 30, 1851.*

March 8, 1852.

Read, referred to the Committee on Finance, and ordered to be printed.

Department of State,
*Washington, March 4, 1852.*

The Secretary of State, in obedience to the 20th section of the act entitled "An act legalizing and making appropriations for such necessary objects as have usually been included in the general appropriation bills without authority of law, and to fix and provide for certain incidental expenses of the departments and offices of the government, and for other purposes," approved the 26th of August, 1842, and the act making appropriations for the civil and diplomatic expenses of government for the year 1836, (section 2,) has the honor to submit to Congress the accompanying statements A, B, C, D and E.

That marked A, shows the manner in which the fund for the contingent expenses of the Department of State has been expended, so far as the disbursements have been made by the agent of the department, during the fiscal year ending on the 30th June, 1851.

B, a statement of the balance of the same appropriation remaining in the treasury on the 30th of June, 1851.

C, a copy of a precise and analytical statement, by the agent of the department, of all moneys disbursed by him during the fiscal year ending on the 30th of June, 1851.

D, a statement of disbursements from the fund for contingent expenses of foreign intercourse, for the year ending on the 30th of November, 1851.

E, a statement of the contingent expenses of all the missions abroad, from the 1st of July, 1850, to the 30th June, 1851, other than those paid by the agent of the Department of State, as stated by the Fifth Auditor.

DANL. WEBSTER.

Hon. William R. King,
*President pro tempore of the Senate.*

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A.

*Detailed statement of the manner in which the fund for the contingent expenses of the Department of State has been expended from July 1, 1850, to July 1, 1851, including the publication and distribution of the laws.*

| To whom paid. | Articles furnished or services rendered. | £ | s. | d. | Amount. | Total. |
|---|---|---|---|---|---|---|
| D. McClelland | Engraving and printing | | | | | $9 50 |
| Anthony best | Repairing passage blind | | | | $0 25 | |
| | Furnishing four yards cord, at 4 cents per yard | | | | 16 | |
| | Putting down matting, $1 50; hanging pair blinds, 25 cents | | | | 1 75 | |
| | Furnishing two papers tacks | | | | 20 | |
| | Putting down 16 pieces oilcloth matting in 8 rooms | | | | 1 00 | |
| | | | | | | 3 36 |
| John Miller | One quarter's subscription to the Repertory of Arts (April to July) | | 9 | 0 | | |
| | One quarter's subscription to Blackwood's Magazine (April to July) | | 7 | 6 | | |
| | Hansard's Debates, vol. 108 | 1 | 10 | 0 | | |
| | Edinburgh Review | | 6 | 0 | | |
| | Large case for packing two boxes of admiralty charts for the Department of State and coast survey | | 13 | 0 | | |
| | Conveyance of same to railway | | 2 | 8 | | |
| | Hansard's Debates, vol. 109 | 1 | 10 | 0 | | |
| | Quarterly Review | | 6 | 0 | | |
| | Westminster Review, (April 12,) omitted under its proper date | | 6 | 0 | | |
| | Annual Register for 1849 | | 16 | 0 | | |
| | Philosophical Transactions, (part 2,) for 1849 | 2 | 5 | 0 | | |
| | Morning Chronicle (April to July) | 1 | 12 | 6 | | |
| | Spectator (April to July) | | 9 | 9 | | |
| | Examiner (April to July) | | 6 | 6 | | |
| | | 10 | 19 | 11 | | |
| | At 4*s.* per dollar | | | | | 54 98 |
| James C. Douglas | 60½ yards colored matting, at 35 cents | | | | 21 17 | |
| | One piece of binding for same | | | | 50 | |
| | | | | | | 21 67 |
| Josiah Melvin | Preparing laws for the press from the original rolls, copying, &c., in Home Bureau—25 days, at $3 per day | | | | | 75 00 |

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| | | | |
|---|---|---|---|
| William J. Fitzpatrick | Services as temporary clerk during the month of July, 1850—27 days, at $3 per day | | 81 00 |
| J. J. C. Bibb | Services as temporary clerk from 1st to 31st July, inclusive—27 days, at $3 per day | | 81 00 |
| R. Mayo | Services rendered as temporary clerk in July, 1850—27 days, at $3 per day | | 81 00 |
| Joseph Smith | Washing 9½ dozen towels | | 7 12 |
| David Carroll | Services as laborer from 1st to 22d July, 1850, inclusive | | 21 52 |
| E. King | Putting leg to table, $1 50; putting knobs on table, 50 cents | | 2 00 |
| Clagett, Newton, May, & Co. | 4 pieces black crape, at $5 50 | 22 00 | |
| | 522 yards black cambric, at 10 cents | 52 20 | |
| | 2 dozen black gloves, at $12 | 24 00 | |
| | | | 98 20 |
| Ferdinand E. Hassler | Services as temporary clerk in the consular bureau from the 9th July to 3d August, 1850, both inclusive, being 23 days, at $4 per day | | 92 00 |
| Baltimore Sun | One year's subscription | | 3 25 |
| Robert B. Campbell | Newspapers for years 1845 to 1850, inclusive | 412 82 | |
| | Books.....do.....do | 38 00 | |
| | | | 475 82 |
| John M. Clayton | Book-case | | 100 00 |
| William H. Prentiss | Cartage three loads laws, $1 50; cartage one load laws, 25 cents | 1 75 | |
| | Cartage one load laws to Smithsonian Institute | 50 | |
| | Cartage one load laws to Secretary's house | 50 | |
| | Cartage one load laws to Secretary of Navy | 25 | |
| | | | 3 00 |
| Noell & Boyd | Making two new blinds, at $6 | 12 00 | |
| | Repairing eight blinds and hanging, at $1 75 | 14 00 | |
| | Repairing one blind with cord and binding | 1 75 | |
| | Repairing three blinds in ante-room, at $1 75 | 5 25 | |
| | Repairing three blinds (large transom windows) in passage | 5 25 | |
| | | | 38 25 |
| Ohio Press | Publishing laws, &c., 1st session 30th Congress | | 25 00 |
| Joseph Smith | Washing eight dozen towels, at 75 cents per dozen | | 6 00 |
| James Williamson | Carrying the mails for July and August, 1850 | | 20 00 |
| Anthony Best | Making 1,000 envelopes, large size | 2 50 | |
| | Pasting 700 envelopes, at 12½ cents per 100 | 87 | |
| | | | 3 37 |
| Josiah Melvin | Copying and other services in Home Bureau—27 days, at $3 per day | | 81 00 |
| W. J. Fitzpatrick | Services rendered as temporary clerk for 27 days in August, at $3 per day | | 81 00 |
| Peter Parker | Subscription to newspapers from March 15, 1847, to July 31, 1848 | 42 00 | |
| | Books | 53 00 | |
| | | | 95 00 |
| Shanks & Wall | Two gross steel pens, at $1 50 | | 3 00 |



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A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| Memphis Appeal | Publishing laws, &c., 1st session 30th Congress | | $234 00 |
| G. W. Yerby | 4 pieces (150 yards) Canton matting, at 31½ cents | $50 00 | |
| | 4.....do.....do.....do.....do | 50 00 | |
| | | | 100 00 |
| De Wilton Haines | Services rendered copying, indexing, and arranging papers, &c., for 12 days in June, at $4 | 48 00 | |
| | Services rendered copying, &c., 16 days in August | 64 00 | |
| | Do.....do.....do.....3 days in September | 12 00 | |
| | | | 124 00 |
| St. Louis (Missouri) Union | Publishing laws, &c., 2d session 30th Congress | | 114 00 |
| Mississippian | Do.....do.....do.....do | | 116 00 |
| John Croms | Repairing door lock No. 5, 50 cents; repairing watering pot, 12½ cents | 62½ | |
| | Opening door lock, 12½ cents; 4 new grate baskets, $10 | 10 12½ | |
| | Repairing castor on chair, 25 cents; repairing door lock, 50 cents | 75 | |
| | Repairing door knobs, 25 cents; opening lock, 12½ cents | 37½ | |
| | Repairing door lock | 50 | |
| | | | 12 37 |
| William H. Prentiss | Hack-hire, $31 31; telegraph, $6 20; Adams & Co., $2 50 | 40 01 | |
| | Postage, 25 cents; hack-hire, $7 12; penwipers, $1; telegraph, 50 cents | 8 87 | |
| | Paste, 12 cts.; repairing shears, 50 cts.; spirits of wine, 12 cts.; cooperage 8 boxes, $1 | 1 74 | |
| | Buckskin, 62 cents; hack-hire, $2 12; postage, 22 cents; omnibus, 37½ cents | 3 33 | |
| | Towels, $2 25; sketches, $2; Adams & Co., $1; acid, 13 cents | 5 38 | |
| | Hack-hire, $5; paste, 5 cents; penwipers, 50 cents; omnibus, 32 cents | 5 87 | |
| | Adams & Co., $3 75; postage, 20 cents; omnibus, 48 cents; hack-hire, $7 25 | 11 68 | |
| | Paste, 5 cents; postage, 15 cents; cartage, 50 cents; postage, 42 cents; hack-hire, $4 12 | 5 24 | |
| | Cartage, $1; telegraph, $1; omnibus, 22 cents; caps, 9 cents; acid, 70 cents | 3 01 | |
| | Omnibus, 25 cents; postage, 80 cents; hack-hire, $6 18; paste, 5 cents | 6 78 | |
| | Railroad bill, $1 05; telegraph, $2 46; omnibus, 27 cents | 3 78 | |
| | Stewart's Pamphlet, 25 cents; postage, 42 cents; telegraph, $8 07; copying, 50 cents | 9 24 | |
| | Congressional Directory, 25 cts.; hack-hire, $1 87; omnibus, 52 cts.; moving cases, $2 | 3 94 | |
| | Congressional Directory, 25 cts.; postage, 35 cents; telegraph, $2 24; hack-hire, $6 64 | 9 48 | |
| | Paste, 6 cents; postage, 18 cents; gross matches, $3; omnibus, 30 cents | 3 49 | |
| | Adams & Co., $11; hack-hire, $5 25; postage, 25 cents; postage, 16 cents | 16 66 | |
| | Adams & Co., 88 cents; washing blankets, 56 cents; omnibus, 76 cents; postage, 20 cts. | 2 40 | |

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| | | | |
|---|---|---|---|
| | Paste, 5 cents; hack-hire, $7 50; Adams & Co., $1; telegraph, $1 26 | 9 81 | |
| | Telegraph, New York and Boston | 8 76 | |
| | | | 159 47 |
| W. P. Faherty | Compensation as packer for quarter ending September 30, 1850 | | 250 00 |
| Anthony Best | Services as laborer for the quarter | | 90 00 |
| James Martin | Do.....do.....do | | 90 00 |
| James Williamson | Do.....do.....do | | 90 00 |
| James Harrington | Do.....do.....do | | 90 00 |
| Charles H. Brown | Services as laborer from July 23 to September 30, 1850 | | 68 47 |
| George Bartle | Furnishing horse for the quarter | | 62 50 |
| Joseph Smith | Washing 8 dozen towels | | 6 00 |
| Josiah Melvin | Reading proof and other services in Home Bureau—25 days, at $3 per day | | 75 00 |
| W. J. Fitzpatrick | Services as temporary clerk 25 days, at $3 per day | | 75 00 |
| R. Mayo | Do.....do..... 23 days.....do | | 69 00 |
| William H. Prentiss | Carrying the mail for the month of September, 1850 | | 10 00 |
| William F. Bayly | 1 ream extra cream letter, ruled, for President | 5 00 | |
| | 3 reams Barker's post, for printing plate forms, at $9 | 27 00 | |
| | 2 pieces silk twist, $1; black sand, 25 cents | 1 25 | |
| | 4 French pump inkstands, at $3 | 12 00 | |
| | 3 reams English laid note paper, at $4 25 | 12 75 | |
| | 3.....do.....do.....medium size, at $4 | 12 00 | |
| | 4 boxes Paris note paper, at $1 50 | 6 00 | |
| | 2..... lo..... lo..large size, at $1 75 | 3 50 | |
| | 12 dozen Myer Phineas' new pens | 3 00 | |
| | Blotting paper | 50 | |
| | 5 quires envelope paper, for President | 1 00 | |
| | 10 envelopes, 50 cents; ½ ream laid letter, cols. B., for President, $2 50 | 3 00 | |
| | 1 ream letter paper, for President, $4 75; 1 eraser, 25 cents | 5 00 | |
| | 1 ream extra laid letter paper, for President, $4 75; 12 cards pens, $2 40 | 7 15 | |
| | 5 pounds and 2 boxes wafers, at 60 cents, $4 20; 12 pounds extra scarlet wax, $10 80 | 15 00 | |
| | 6 erasers, $1 25; 12 balls fine English twine, at 25 cents, $3; India rubber, 50 cents | 4 75 | |
| | 6 dozen Faber's pencils, $3; 12 cards bullion pens, $3 | 6 00 | |
| | 2 gross Herts's pens, $2; 3 dozen cards Perry's pens, $7 20 | 9 20 | |
| | 7 boxes Herrick's new pens, at $1 per gross | 7 00 | |
| | 3 dozen cards Gillott's pens, $3; 1 gross extra fine point pens, P., $2 40 | 5 40 | |
| | 10 laid envelopes, for President | 1 62 | |
| | Ruling 6 reams letter paper to pattern, at $1 25 | 7 50 | |
| | ½ ream letter paper, for President | 2 50 | |
| | 1,000 envelopes, laid, $3 75; black sand, 37 cents | 4 12 | |
| | | | 161 24 |



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## A—Continued.

| To whom paid. | Articles furnished or services rendered. | | Amount. | Total. |
|---|---|---|---|---|
| Texas Banner | Publishing laws, &c., 2d session 30th Congress | | | $116 00 |
| John Tretler | Binding 79 vols. domestic papers, at $4 | | $316 00 | |
| | Binding 18 vols. foreign papers, at $4 | | 72 00 | |
| | | | | 388 00 |
| Wm. F. Bayly | 2 pounds extra black wax, $6; 12 pearl Congress knives, $24 | | 30 00 | |
| | 6 buck Congress knives, $10 50; 11 ivory erasers, $5 50 | | 16 00 | |
| | 12 cards Perry's extra fine pens, $6; 2 large letter stamps, $2 | | 8 00 | |
| | 4 boxwood sand boxes, $2; 1 large hair brush, $2 | | 4 00 | |
| | 1 comb, 75 cents; 1 box French note paper, $2 25; 1 pen wiper, 50 cents | | 3 50 | |
| | 1 large inkstand (patent,) $3 25; 2 ivory folders, $3 | | 6 25 | |
| | Ring for keys, 31 cents; 1 dozen Faber's pencils, $1; 1 inkstand, $1 50 | | 2 81 | |
| | 6 large ivory folders, $3; 6 boxwood wafer cups, $1 88 | | 4 88 | |
| | 3 dozen drawing pencils (lead,) $3 | | 3 00 | |
| | 2 reams white waste paper, $1 25; 5 quires large white waste paper, $1 87 | | 3 12 | |
| | 500 envelopes (laid,) $2 50; 1 boxwood sand box, 50 cents | | 3 00 | |
| | 1 inkstand, $1 50; 1 inkstand, $1 50 | | 3 10 | |
| | | | | 87 56 |
| Charles F. Dennet | Invoice of envelopes, made per contract | £217 13s. 4d. | | |
| | Packing cases, carriage to Liverpool, freight to U. S., shipping, &c | 41 1 1 | | |
| | Commissions | 16 8 0 | | |
| | | 275 2 5 | | 1,890 08 |
| Gideon & Co | 2 copies daily "Republic" from June 13, 1849 to October 16, 1850 | | 20 00 | |
| | Advertising in do official competition, 1 time, $3 50 | | 3 50 | |
| | Advertising in do proposals for stationery and printing | | 18 12 | |
| | Daily Republic, from June 13, 1849 to June 13, 1850 | | 10 00 | |
| | Advertising notice to heads of bureaus, and assist. to assemble | | 1 00 | |
| | Printing 250 certificates, $1 25; printing 10 quires certificates, $1 | | 2 25 | |
| | Printing sets of numbers, $1; printing 1 set numbers, $1 50 | | 2 50 | |
| | 4 copies of Daily Republic | | 20 | |
| | Printing 10 quires certificates | | 1 00 | |
| | 2 copies tri-weekly Republic, 10 cents; printing 12 quires circulars, $1 20 | | 1 80 | |

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|---|---|---|---|
| | Printing 12 quires instructions for obtaining passports | 1 20 | |
| | Printing 18 quires blank proposals, three kinds, $1 80; 8 copies Republic, 15 cents | 1 96 | |
| | | | 68 02 |
| Adams & Co. | Freight and charges on boxes, viz:—6 boxes for governor of California, care of W. H. Morrell, New York | 27 00 | |
| | 1 box governor of California, care of W. H. Morrell, New York | 8 00 | |
| | 5 boxes governor of Territory of New Mexico, care of postmaster, Independence, Mo | 75 00 | |
| | 9 boxes from Boston to Washington | 67 50 | |
| | Port charges on 9 boxes at Boston | 12 82 | |
| | Forwarding commissions | 11 00 | |
| | | | 196 82 |
| Gales & Seaton | 4 copies of Daily National Intelligencer from April 11, 1850, to October 11, 1850 | | 20 00 |
| J. V. N. Throop | Printing 683 commissions, at $6 per 100 | | 40 98 |
| James S. Mackie | Preparing an index for the acts, resolutions, &c., of the 1st session of the 31st Congress | | 150 00 |
| Wm. A. Wheeler & Co. | 7 pounds packing twine, $2 10; ½ ream French laid letter paper, $1 75 | 3 85 | |
| | 1 pound white rubber, $1 50; 2 dozen Faber's gilt pencils, $1 | 2 50 | |
| | ½ dozen Rodgers' 4 blade pearl knives | 10 00 | |
| | 1 ivory letter stamp, 1 cent; 1 1-6 gross Wheeler's assorted pens, $1 75 | 1 76 | |
| | 1 extra superfine large gilt double fount inkstand | 4 00 | |
| | 1 extra superfine large gilt double fount inkstand with bell | 6 00 | |
| | 4 packs visiting cards, $1 50; 1 gilt spring pressure bell, $2 50 | 4 00 | |
| | 2 reams extra gilt cream laid letter paper, $9; ruling 1 ream to order, $1 | 10 00 | |
| | ½ ream blue laid gilt letter paper, $2 25; ½ ream cream laid gilt note paper, 75 cents | 3 00 | |
| | ½ ream blue and cream laid Bath post, gilt | 5 25 | |
| | 1 ream blue and cream French laid letter paper | 4 00 | |
| | 500 French adhesive envelopes | 1 50 | |
| | 350 cream laid English envelopes | 1 40 | |
| | 2 pounds extra superior scarlet wax, $2; 4 gilt lackered letter clips, $4 | 6 00 | |
| | 1 fine porcelain sponge dish | 1 00 | |
| | 1 large piece Turkey sponge, 75 cents; 1 Rodgers' 4 blade pearl knife, $1 67 | 2 42 | |
| | 1 cocoa wafer cup, 17 cents; 1 ivory pounce box, 4 cents | 21 | |
| | 1 ivory letter stamp, 1 cent; 1 small letter clip, 25 cents | 26 | |
| | | | 67 15 |
| | 4 reams yellow superroyal envelope | 16 00 | |
| | 1 silver spring pressure bell | 2 00 | |
| | 1 gold pen, $1 50; 350 cream laid hand-made official envelopes, $2 10 | 3 60 | |
| | 1 bottle of gum mucilage, 25 cents; 11 1-6 dozen extra long wide taste, $55 83 | 56 08 | |
| | 1,250 white hand-made envelopes, $6 25; 6 pounds black wax, $6 | 12 25 | |
| | 6 cut glass letter weights, $18; 500 large document envelopes, $1 50 | 19 50 | |
| | 2 glass letter weights, $5; 1 quire cream laid folio post, 25 cents | 5 25 | |



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## A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| W. A. Wheeler & Co.—Continued. | 1 bottle mucilage, 25 cents; 1 brush for mucilage, 25 cents | $ 50 | |
| | 1½ dozen patent 4to blotters, $1 50; 6 cards ladies' pens, 37 cents | 1 87 | |
| | 5,000 white official envelopes, $20; 3 extra fine scrap baskets, $7 50 | 27 50 | |
| | 200 extra size white envelopes, $1 50; 300 blue hand-made envelopes, $1 50 | 3 00 | |
| | 1 ream damask laid letter paper, $4; 1,000 card envelopes, $2 | 6 00 | |
| | ½ dozen Rodgers' 4 blade pearl knives, $10; 1 dozen Fabers' pencils, 50 cents | 10 50 | |
| | 1 ream gilt note paper, $1 50; 2 extra fine scrap baskets, $5 | 6 50 | |
| | 2,500 white official envelopes, $10; 7 reams gilt note paper, $10 50 | 20 50 | |
| | 500 extra large despatch envelopes, $5; 1 yard tracing cloth, 62 cents | 5 62 | |
| | Fawn's-foot silver-mounted folder, $2 50 | 2 50 | |
| | 1 card stone point mapping pens, $1; 1 pound white wafers, $1 | 2 00 | |
| | 3 pounds extra superior scarlet wax | 3 00 | |
| | 1 ream blue laid gilt letter, $4 50; ruling to pattern, $1 | 5 50 | |
| | ½ ream white vellum letter, $4 50 | 4 50 | |
| | 6 6-quire half-bound medium books, Russia bands | 60 00 | |
| | 6 6-quire full Russia medium books | 72 00 | |
| | | 346 17 | |
| | Deduct 6 full-bound Russia books .....$72 | | |
| | Deduct on 11 1-6th dozen silk taste wide, 44 66 | 116 66 | |
| | | | $229 51 |
| D. McClelland | Printing 900 commissions, at 5 cents | 45 00 | |
| | Cleaning 2 plates | 4 00 | |
| | Printing 600 commissions, at 5 cents | 30 00 | |
| | Alterations and additions on 2 plates | 6 00 | |
| | 106 sheets of double elephant drawing paper, and printing 106 Declarations of Independence, and cleaning plate | 56 00 | |
| | | | 141 00 |
| R. Mayo | Services as temporary clerk from August 1, 1850, to August 21, 1850—18 days at $3 | | 54 00 |
| Josiah Melvin | Services in Home Bureau—23 days at $3 | | 69 00 |
| Cecelia H. Martin | Mending sheep-skin rug, 12½ cents; binding 4 rugs, $1 50 | 1 62½ | |

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|---|---|---|---|
| | Hemming 2 table-covers, 50 cents; binding 1 table-cover, 37½ cents | 87½ | |
| | Finding binding for table covers | 40 | |
| | | | 2 90 |
| W. J. Fitzpatrick | Services as temporary clerk from October 1 to October 12—11 days at $3 | | 33 00 |
| W. McL. Cripps | 1 large basin and stand | | 10 00 |
| Taylor & Maury | 6 bottles carmine ink, extra, $3 75; pen rack, 37 cents | 4 12 | |
| | Blank book, 7 quires, full bound | 3 50 | |
| | Blank book, 6 quires, extra, $6 50 | 6 50 | |
| | 1 large gold pen and silver holder | 4 50 | |
| | 3 reams superior blue letter paper, $12 75; 3,000 fine white envelopes, $8 25 | 21 00 | |
| | 2,000 fine white self-sealing envelopes, stamped | 6 50 | |
| | 6 extra ivory desk knives | 6 00 | |
| | 1 ream English blotting paper, $5 75; 1,000 buff doc. envelopes, $4 50 | 10 25 | |
| | 1 Levi Brown's best diamond-pointed pen | 5 00 | |
| | 1 ream English cream-laid note paper, $3 75; 2 sets black lines, 63 cents | 4 38 | |
| | 6 reams blue superior letter paper, $25 50; 200 fine envelopes, $5 50 | 31 00 | |
| | 2,000 fine envelopes, self-sealing, in boxes | 7 50 | |
| | 48 packs extra, double surface, visiting cards | 24 00 | |
| | Colton's Three Years in California | 1 50 | |
| | 1,000 extra thick white envelopes | 4 25 | |
| | 1,000 white cream-laid envelopes | 4 25 | |
| | 1,000 white French envelopes | 5 25 | |
| | 1,000 white French card envelopes | 3 00 | |
| | 1 calendar, 3 divisions | 75 | |
| | 1,000 cream-laid note envelopes | 3 75 | |
| | Turkey morocco portfolio, extra | 5 25 | |
| | | | 162 25 |
| W. A. Griffith | 4 pieces of soapstone (bottom), $14; 2 pieces soapstone (top), $6 | 20 00 | |
| | Bricklayer for fitting | 2 50 | |
| | | | 22 50 |
| Wm. H. Prentiss | Cartage of laws to minister, 3 loads | 1 50 | |
| | 1 load, box to engravers | 25 | |
| | 1 load, box to Secretary's house | 25 | |
| | 3 loads to capitol, $1 25; 4 loads to post office, $1 | 2 25 | |
| | 4 loads to capitol | 2 12 | |
| | | | 6 87 |
| Joseph Smith | Washing 8 dozen towels | | 6 00 |
| John M. Donn & Bro | 1 covered chamber, $1; 1 water-cooler, $3 75 | 4 75 | |
| | 1 paper basket $1 25; 12½-foot fenders, $12 50 | 13 75 | |
| | 1 pair bronzed candlesticks, $4 and $5 each | 9 00 | |



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## A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| J. M. Donn & Bro.—Continued.. | 1 pair candlesticks, $3 50 and $4 each | $7 50 | |
| | 4 spittoons, $3; 2 mats, $3 50; 2 pair ——, 75 cents | 7 25 | |
| | | 42 25 | |
| | Deduct water-cooler | 3 75 | |
| | | | $38 50 |
| John Pettibone | 40 1-peck ice tickets, $5; 40 1-peck ice tickets, $5 | 10 00 | |
| | 32...do....do.....$4; 16...do.....do.....$2 | 6 00 | |
| | 16 ½-peck...do.....$1; 80...do.....do.....$10 | 11 00 | |
| | 25 ½-bushel..do.....$6 25; 25 ½-bushel ice tickets, $6 25 | 12 50 | |
| | | | 39 50 |
| The Republic | Publishing laws 1st session 31st Congress | ..... | 224 00 |
| Gideon & Co | 1,680 copies of the Republic containing laws, resolutions, &c., &c., furnished the publishers of the laws, &c., in the different States, at 3 cents each | ..... | 50 40 |
| David A. Baird | Putting the Department in mourning for President Taylor | 15 00 | |
| | Making 2 velvet carpets for Secretary's rooms, sewing 94 yards, and binding 28 yards at 18¾ cents | 22 87 | |
| | Sewing 68½ yards 3-ply carpet for library, and binding 56 yards, at 12½ cents per yard | 15 56 | |
| | 3 pieces binding for same, at 50 cents | 1 50 | |
| | Thread for velvet and 3-ply carpets | 1 25 | |
| | Papering Dr. Mackie's room, viz: | | |
| | 10 pieces satin paper, $5; 3 pieces match border, $3 75 | 8 75 | |
| | Sizing the room, $1; hanging 10 pieces paper, $2 50 | 3 50 | |
| | Hanging 3 pieces border, $1 87; putting down 7 old carpets, $10 50 | 12 37 | |
| | Putting down 11 old carpets, (2d floor) | 16 50 | |
| | Putting up 12 sets window curtains and cornices | 12 00 | |
| | 16 brass curtain pins, $2; 4 iron hooks for cornices, 50 cents | 2 50 | |
| | 5 dozen screw rings for cornices | 1 56 | |
| | Altering and putting down carpet in Mr. Derrick's room | 3 50 | |
| | Putting down large passage carpet | 5 00 | |
| | Putting down 12 pieces oil-cloth | 1 50 | |
| | 44 papers tacks for carpets, &c | 4 40 | |
| | | | 127 76 |



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|---|---|---|---|---|---|---|
| E. Lindsley | 8 papers tacks, 80 cents; 2 screw rings, 10 cents; 2 brass-head nails | | | | 46 | |
| | 1 fine padlock, 87 cents; 2 fine padlocks, $1 50; 2 coal hods, $2 | | | | 4 87 | |
| | 1 tack drawer, 37 cents; 1 dozen fine padlocks, $6 50 | | | | 6 87 | |
| | 1 dozen dusting brushes, $7 80; 4 dozen brass hooks, $1 50 | | | | 9 80 | |
| | 1 lantern, 62 cents; 6 fine fancy-key'd padlocks, $3 90 | | | | 4 52 | |
| | | | | | | 25 52 |
| | | £ | s. | d. | | |
| John Miller | Repertory of Arts, 1 quarter, 9s.; Blackwood's Magazine, 1 quarter, 7s. 6d. | | 16 | 6 | | |
| | London and Westminster Review, 6s.; Quarterly Review, 6s | | 12 | 0 | | |
| | Edinburgh Review, 6s.; Hansard's Debates, vol. 110, £1 10s | 1 | 16 | 0 | | |
| | Colonial Magazine, 2s. 6d.; Hansard's Debates, vol. 111, £1 10s | 1 | 12 | 6 | | |
| | Index to Quarterly Review, 2 Nos., 12s | | 12 | 0 | | |
| | Pamphlet on the Ship Canal, &c | | 1 | 0 | | |
| | Illustrated News from 31st August, (inclusive,) and Supplement | | 3 | 0 | | |
| | Morning Chronicle, 1 quar., £1 12s. 11d.; Spectator, 9s. 9d.; Examiner, 6s. 6d. | 2 | 9 | 2 | | |
| | | 8 | 2 | 2 | | 40 54 |
| R. B. Forbes, vice-consul at Canton | Subscription to China Mail, 1 year | | | | | 18 28 |
| Anthony Best | Cutting and fitting 2 pieces of zinc for grate | | | | 1 00 | |
| | Putting down zinc at passage door | | | | 50 | |
| | Putting down 3 pieces oil-cloth | | | | 19 | |
| | Covering and putting on sill with baize | | | | 15 | |
| | Trimming and putting down 2 pieces zinc for stoves | | | | 1 00 | |
| | Putting down 1 piece of carpet in room No. 8 | | | | 12 | |
| | Putting down 1 piece oil-cloth | | | | 6 | |
| | Putting down 1 piece baize at the door sill | | | | 12 | |
| | | | | | | 3 15 |
| F. Masi & Co | 1 timepiece for the Secretary of State | | | | | 80 00 |
| Baltimore Patriot | Publishing laws, &c., 1st session 31st Congress | | | | | 224 00 |
| Wm. H. Prentiss | Cartage 3 loads laws to Post Office, $1 25; 7 loads to Post Office, $2 62 | | | | 3 87 | |
| | Cartage 4 loads laws to Post Office, $2; 6 loads to Post Office, $3 | | | | 5 00 | |
| | Cartage 4 loads laws to Post Office, $2 | | | | 2 00 | |
| | | | | | | 10 87 |
| National Intelligencer | Publishing laws, &c., 1st session 31st Congress | | | | | 224 00 |
| John Gaither | Printing 11,000 copies laws of the 1st session 31st Congress, 270 pages, at $3 30 per page | | | | 891 00 | |
| | Binding same, 11,000 copies, at 2 cents each | | | | 220 00 | |
| | | | | | | 1,111 00 |
| Rochester Daily Democrat | Publishing laws, &c., 1st session 31st Congress | | | | | 224 00 |
| Joseph Smith | Washing 8 dozen towels | | | | | 6 00 |
| Boston Daily Atlas | Subscription from March 20, 1849, to November 25, 1850 | | | | | 18 45 |



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## A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| New Hampshire Statesman | Publishing laws, &c., 1st session 31st Congress | | $224 00 |
| Boston Atlas | ....do....do....do | | 221 00 |
| Robert S. Chew | Expenses in travelling to Marshfield, Massachusetts, and back, with Secretary of State on department business | | 129 95 |
| W. W. Cox | 1 patent spring revolving chair, enamelled cloth, with castors | | 22 00 |
| Detroit Daily Advertiser | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Wabash Express | ....do....do....do | | 224 00 |
| Adams & Co's Express | Freight and charges on 3 boxes laws | | 20 50 |
| Cincinnati Daily Gazette | Publishing laws 1st session 31st Congress | | 224 00 |
| Connecticut Courant | ....do....do....do | | 224 00 |
| Missouri Republican | ....do....do....do | | 224 00 |
| Florida Sentinel | ....do....do....do | | 224 00 |
| Pittsburg Gazette | ....do....do....do | | 224 00 |
| Kennebec Journal | ....do....do....do | | 224 00 |
| Adams & Co's Express | Freight on 3 cases laws | | 19 00 |
| Republican Banner and Nashville Whig | Publishing laws 1st session 31st Congress | | 224 00 |
| Illinois Journal | ....do....do....do | | 224 00 |
| New Orleans Commercial Bulletin | ....do....do....do | | 224 00 |
| Indiana State Journal | ....do....do....do | | 224 00 |
| Providence Journal | ....do....do....do | | 224 00 |
| New Jersey State Gazette | ....do....do....do | | 224 00 |
| Primitive Republican | ....do....do....do | | 224 00 |
| W. F. Bayly | 2 pair scissors, $1; 30 dozen twilled taste | $61 00 | |
| | 4 dozen twilled taste, assorted colors | 10 00 | |
| | | | 71 00 |
| Newark Daily Advertiser | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Vermont Watchman and State Journal | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Knoxville Register | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Taylor & Maury | 2 dozen bottles (in boxes) Maynard & Noyes' ink, (extra) | | 11 00 |
| James Paul & Co | 2 arm-chairs (swivel seat,) $34; packing do., $9 50 | | 36 50 |
| Telegraph Company | Telegraphing, viz: Mr. Webster to J. S. Tyler | 1 68 | |



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| | | | |
|---|---|---|---|
| | Mr. Zantzinger to Adams's Express | 3 25 | |
| | | | 4 93 |
| W. P. Faherty | Services as packer, &c. for quarter ending this day | | 250 00 |
| Anthony Best | Services as laborer for the quarter | | 90 00 |
| James J. Martin | ....do.....do.....do | | 90 00 |
| James Williamson | ....do.....do.....do | | 90 00 |
| James Harrington | ....do.....do.....do | | 90 00 |
| Charles H. Brown | ....do.....do.....do | | 90 00 |
| George Bartle | Furnishing horse for the quarter | | 62 50 |
| W. H. Prentiss | Carrying the mails for the quarter | | 80 00 |
| Joseph Smith | Washing 8 dozen towels | | 6 00 |
| Savannah Republican | Publishing laws 1st session 31st Congress | | 224 00 |
| R. S. Patterson | 3 large nail brushes, $2 25; fine sponge, $2 75 | 5 00 | |
| | 2 large sponges, $1; lustre, 50 cents; sal soda, 25 cents | 1 75 | |
| | ½ gallon alcohol, 50 cents; whiting, 12 cents; fullers' earth, 12 cents | 75 | |
| | 4 pounds pulverized rotten stone, $1; ½ gallon alcohol, 50 cents | 1 50 | |
| | | | 9 00 |
| C. P. Smith | Services as temporary clerk, from December 10, 1850, to date, 19 days, at $3 | | 57 00 |
| D. McClelland | Engraving "Secretary of State" on card plate, and 10 packs of cards | 9 50 | |
| | Printing 8 packs of cards | 6 00 | |
| | | | 15 50 |
| Wm. H. Prentiss | Hack hire, 75 cents; omnibus, 42 cents; postage, 30 cents; omnibus, 32 cents | 1 79 | |
| | Telegraph, 35 cents; hack hire, $4 50; cooperage of 12 boxes, $1 50 | 6 35 | |
| | Omnibus, 52 cents; Adams & Co., package to Philadelphia, 50 cents; Adams & Co, box, 25 cts. | 1 27 | |
| | Paste, 5 cents; postage, 15 cents; freight, schooner Washington, $1 58 | 1 78 | |
| | 2 brushes for stoves, $1 50; spirits of wine, 13 cents; postage, 47 cents; omnibus, 10 cents. | 2 20 | |
| | Hack hire, 75 cents; paste, 18 cents; cooperage, 5 boxes, 62 cents | 1 55 | |
| | Freight, Adams & Co., $1 88; freight, Adams & Co., $1 13 | 3 01 | |
| | Postage, 62 cents; hack hire, $7 75; paste, 15 cents; spirits of wine, 75 cents | 9 27 | |
| | Telegraph, $1 15; omnibus, 20 cents; locksmith, 25 cents; cartage, 44 cents | 2 04 | |
| | Postage, 35 cents; omnibus, $1 10; hack hire, $11 81; postage 45 cents | 13 71 | |
| | Telegraph, $1 53; freight, Adams & Co., $1 50; omnibus, 93 cents | 3 96 | |
| | Postage, 98 cents; freight, Adams & Co., $1 75; cotton, 50 cents | 8 23 | |
| | Hack hire, $6 25; telegraph, $2 93; omnibus, 10 cents; hack hire, $6 75 | 16 05 | |
| | Omnibus, 25 cents; postage, 55 cents; freight, Adams and Co., $4 50 | 5 80 | |
| | Candles, 32 cents; Mrs. Martin, making druggets, $1 | 4 32 | |
| | Telegraph to New York, $2 15; cooperage 2 boxes, 25 cents | 2 40 | |
| | Hack hire, $1 25; freight, Adams & Co. $1 | 2 25 | |
| | Postage, 70 cents; omnibus, 54 cents; telegraph, $1 40 | 2 64 | |
| | | | 83 12 |



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## A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| New Hampshire Sentinel | Publishing laws, &c., 1st session 31st Congress | | $224 00 |
| Samuel Kirby | 1 washstand, $7; covering small desk with cloth, $3 | $10 00 | |
| | Putting cane-seat in chair, $1; 1 desk, $10; 1 large table, $30 | 41 00 | |
| | 1 desk, $10; 1 table, $15; covering small desk with cloth, $3 50 | 28 50 | |
| | Repairing and varnishing table, $4; covering table with cloth, $4 | 8 00 | |
| | Putting mouldings round table, $1; cartage old furniture, 50 cents | 1 50 | |
| | Repairing and varnishing chair | 2 50 | |
| | Restuffing and varnishing chair, and covering 2 arms with hair-cloth | 3 00 | |
| | 1 pound curled hair, 50 cents; 2 mahogany cases, $50 | 50 50 | |
| | Repairing arm chairs, $1 50; restuffing chair and covering with hair cloth, $5 | 6 50 | |
| | 20 mahogany boards, $8; repairing and putting silk on fire-screen, $2 50 | 10 50 | |
| | Repairing fire screen, $2; repairing and varnishing large table, $6 | 8 00 | |
| | Puting new cloth on large table, $9 | 9 00 | |
| | Repairing and varnishing sofa, $6; making new cushion for sofa, $6 | 12 00 | |
| | Covering arms of sofa with hair cloth, $3; cartage sofa and table, $1 | 4 00 | |
| | Cleaning and varnishing chair, $1 | 1 00 | |
| | Covering large arm chair with plush | 12 50 | |
| | 1 marble-top wash-stand | 25 00 | |
| | Restuffing and covering chair | 2 50 | |
| | 6 mahogany chairs | 60 00 | |
| | Repairing and varnishing 12 chairs | 9 00 | |
| | Altering and varnishing large screen | 2 50 | |
| | Covering large screen with moreen | 8 00 | |
| | Cartage for old furniture | 1 00 | |
| | | | 316 50 |
| Mobile Daily Advertiser | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Monongalia Mirror | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| William Fischer | 1,000 quills, No. 80, D | | 28 80 |
| Richmond Whig | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Gideon & Co | Publishing 240 copies of act respecting fugitive slaves, viz: composition 9,000 ems, $4 50; press-work, $2; paper, $2 25 | 8 75 | |
| | Printing 50 copies of treaty with Navajo Indians, viz: composition of 12,000 ems, $6; press-work, $2 50; paper, $1 | 9 50 | |



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| | | | |
|---|---|---|---|
| | Printing 50 copies of treaty with Utah Indians, viz: composition, 12,000 ems, $6; press-work, $2 50; paper, $1 | 9 50 | |
| | Printing 50 copies treaty with Wyandotte Indians, viz: composition, 19,000 ems, $9 50; press-work, $2; paper and stitching, $1 50 | 13 00 | |
| | Printing 5 quires circulars | 50 | |
| | Do.. 10 quires appointments deputy postmasters | 1 00 | |
| | 2 copies Republic, 7th and 11th September | 10 | |
| | 6..do.....do | 30 | |
| | Advertising in the Republic, treaty with Utah and Navajo Indians | 37 00 | |
| | Do.....do.....treaty with Wyandotte Indians | 49 00 | |
| | Do.....do.....death of John L. Pell | 1 00 | |
| | Do.....do.....proclamation on Texas boundary | 14 00 | |
| | | 148 65 | |
| | Deduct death of John L. Pell | 1 00 | |
| | | | 142 65 |
| Daniel Hauptman & Son | 2 large tin boxes, $6; 7 large boxes, $24 50 | 30 50 | |
| | 8 large boxes, $28; resoldering boxes, 50 cts. | 28 50 | |
| | 2 large cases | 6 00 | |
| | | | 65 00 |
| Newport Daily News | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| James Harrington | Compensation as laborer to date | | 10 00 |
| North State Whig | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Warren Intelligencer | Do.....do.....do.....do | | 224 00 |
| William A. Wheeler & Co. | 3 reams cream-laid note paper | 4 50 | |
| | 1 large bronzed spring inkstand | 1 00 | |
| | 600 document envelopes, hand-made | 6 00 | |
| | ½ ream cream-laid letter paper, $2 25; 1 ream cream-laid note paper, $1 70 | 3 95 | |
| | 1..do. Bath post, gilt, $4; 1 ream gilt note, $1 50 | 5 50 | |
| | 1..do. white super-royal writing paper | 10 00 | |
| | Cutting and hand-making into envelopes | 3 00 | |
| | 1 long ivory folder, with handle, $1; 1 pearl knife, $1 67 | 2 67 | |
| | 3 pounds scarlet wax, $3; 6 pounds scarlet wax, $6 | 9 00 | |
| | 1 large extra gilt double-pump inkstand | 5 00 | |
| | 3 large ivory folders, with handles | 3 00 | |
| | 1 large ivory letter stamp | 1 | |
| | 1 ivory weekly calendar | 3 00 | |
| | 6 reams white medium paper, $30; 1 bottle M. & N. ink, 8 cts. | 30 08 | |
| | 2 letter weights, $2 50; 2 dozen quarto blotters, $1 50 | 4 00 | |
| | 7 pounds gill-net twine, $8 50; 1 large gold pen and holder, $8 | 6 50 | |



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| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| W. A. Wheeler & Co.—Contin'd. | 1 extra super-royal quarto calf folio, embossed and gilt | $4 50 | |
| | 1 daily pearl calendar, $5; 1 dozen rubber bands, 75 cts. | 5 75 | |
| | 1 ream extra cream-laid cap, medium, to pattern | 7 50 | |
| | 1 index book, 50 cts.; 1 pearl knife, $1 67 | 2 17 | |
| | 2 reams soft wrapping paper | 1 50 | |
| | 1 3-quire royal quarto demy black-book, full morocco | 3 00 | |
| | 3 large bronze spring inkstands | 3 00 | |
| | ¼ ream fancy colored note paper | 3 00 | |
| | 8 boxes fancy wax | 2 00 | |
| | 3 large bronze spring inkstands | 3 00 | |
| | 1 taper burner, $1; 1 small vista light, 25 cts. | 1 25 | |
| | 3 tapers, 18 cts.; 1 extra large silver bronzed inkstand, with wafer cup, sand box, and spring bell, $10 | 10 18 | |
| | 100 clear quills, 10 cts.; 1 bundle rubber band, 75 cts. | 85 | |
| | 1 ivory and silver seal, engraved for official seal | 4 00 | |
| | 6 pounds red wax | 6 00 | |
| | | | $154 71 |
| John Crome | New ash pan, $2 50; repairing ketch, 12 cts.; repairing door knob, 13 cts | 2 75 | |
| | Repairing seal and new handle, 25 cts.; repairing shovel, 12 cts. | 37 | |
| | New bell on front door, 38 cts.; opening lock, 12 cts | 50 | |
| | Repairing mortise lock, 50 cts.; repairing lock, 38 cts.; opening lock and new key, 37 cts. | 1 25 | |
| | | | 4 87 |
| E. Lindsley | 6 ——, 90 cts.; 2 pair plated candlesticks, $11 | 11 90 | |
| | 1 pair plated candlesticks | 5 00 | |
| | | | 16 90 |
| Portland Advertiser | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| New Orleans Commercial Bulletin. | 1 year's subscription, from April 1, 1849 | | 12 00 |
| Montreal Courier | Subscription to Courier, from August, 1849, to August, 1851 | | 12 00 |
| | £ s. d. | | |
| John Miller | Subscription to Repertory of Arts, 1 quarter 9 0 | | |
| | Do.....Blackwood's Magazine 7 6 | | |
| | Do.....Colonial.....do 7 6 | | |
| | Index to Edinburgh Review, 2 numbers 12 0 | | |



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|---|---|---|---|---|---|---|---|
| | Hansard's Debates, vol. 112 | 1 | 10 | 0 | | | |
| | 8 quires best cartridge paper, and printing directions on same for Secretary of State | | 17 | 6 | | | |
| | 2 quires best cartridge paper, and printing directions on same for newspapers | | 8 | 6 | | | |
| | Royal Calender | | 5 | 0 | | | |
| | British Almanac and Companion | | 4 | 0 | | | |
| | Protest of bill paid Messrs. Baring & Co | | 7 | 8 | | | |
| | Westminster, Quarterly and Edinburgh Reviews | | 18 | 0 | | | |
| | Statutes at Large for last session, quarto | 1 | 6 | 0 | | | |
| | ....do....do....octavo | 1 | 5 | 0 | | | |
| | Philosophical Transactions, part 1, 1850 | 1 | 10 | 0 | | | |
| | Morning Chronicle, one quarter | 1 | 12 | 6 | | | |
| | Spectator, one quarter, 9*s.* 9*d.*; Examiner, one quarter, 6*s.* 6*d.* | | 16 | 3 | | | |
| | Illustrated News and Supplement, one quarter | | 8 | 6 | | | |
| | | 18 | 4 | 6 | ..... | | 66 82 |
| Taylor & Maury | 2,000 medium cream laid envelopes extra | | | | 8 50 | | |
| | 2,000 cream wove envelopes extra | | | | 9 00 | | |
| | | | | | | | 17 50 |
| Vermont Journal | Publishing laws, &c., 1st session, 31st Congress | | | | | | 224 00 |
| Hartford Daily Courant | Subscription from March 19, 1849, to December 31, 1850 | | | | | | 8 00 |
| Milwaukie Sentinel and Gazette | Publishing laws, &c., 1st session 31st Congress | | | | | | 224 00 |
| Louisville Journal | .....do.....do.....do | | | | | | 224 00 |
| Springfield Daily Republican | .....do.....do.....do | | | | | | 224 00 |
| New Haven Palladium | .....do.....do.....do | | | | | | 224 00 |
| Charleston Evening News | .....do.....do.....do | | | | | | 224 00 |
| James Green | 1 cistern barometer, with attached thermometer | | | | | | 80 00 |
| Florida Republican | Publishing laws, &c., 1st session 31st Congress | | | | | | 224 00 |
| John A. Blake | Binding 3 half-yearly volumes newspapers, (Daily Union, Daily Intelligencer, and Daily Republic,) in half sheep, lettered, at $2 50 per volume | | | | 7 50 | | |
| | Binding 1 volume United States Statutes at Large | | | | 1 00 | | |
| | Lettering 3 titles, blank records, at 50 cents | | | | 1 50 | | |
| | 17 morocco labels for book | | | | 4 25 | | |
| | Binding at the department 6 volumes diplomatic correspondence | | | | 21 00 | | |
| | ....do.....do.....do | | | | 17 50 | | |
| | 18 gilt labels for letter-press book | | | | 4 50 | | |
| | 18 gilt numbers for letter-press book | | | | 3 25 | | |
| | 1 gilt label, Monterey | | | | 25 | | |
| | Relettering and adding plates to Washington's Farewell Address | | | | 50 | | |
| | 4 morocco labels | | | | 1 00 | | |





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A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| John A. Blake—Continued..... | 1 blank book, 6 quires, demy, printed head, ruled faint lines, and full bound Russia, spring back, morocco index in front..... | $14 50 | |
| | Lettering book, 3 titles; 1 label for book ..... | 1 00 | |
| | 1 blank book, 5 quires, medium quarto, ruled and full bound, spring back, with parchment labels in front..... | 8 00 | |
| | Lettering 1 book, 3 titles, 75 cents; lettering book, 1 title, 25 cents..... | 1 00 | |
| | Lettering 2 books for the President, at 25 cents..... | 50 | |
| | 1 book, 6 quires, demy, full bound, spring back, full printed, blank, Russia ends and bands, Commissioner's instructions..... | 14 50 | |
| | 1 book blank commissions for deputy P. M.'s, 6 quires, medium, full bound, spring back, Russia ends and bands, and index for do..... | 16 00 | |
| | 1 book despatches to diplomatic agents, 5 quires, medium folio ruled faint red lines, half-bound, spring back, with morocco index..... | 8 00 | |
| | 1 book, 5 quires, demy, ruled faint red lines, full bound, spring back, Russia ends and bands, and morocco index..... | 10 00 | |
| | Binding 1 volume United States Statutes at Large..... | 1 00 | |
| | 9 treaty boxes complete, super-extra style..... | 225 00 | |
| | Lettering blank books..... | 25 | |
| | Binding 4 volumes Laws of the United States, half sheep..... | 2 00 | |
| | Binding 1 volume Laws of the United States, full calf..... | 1 00 | |
| | Binding 2 volumes Commercial Dictionary, full Russia, spring back..... | 5 00 | |
| | Adding 20 sheets to index to States, and lettering do..... | 50 | |
| | Binding 1 volume parchment laws at the department, half Russia extra..... | 7 00 | |
| | Blank book, 8 quires, medium folio, half bound in morocco, spring back, morocco index.. | 8 00 | |
| | Binding 1 copy document, "Right of Search"..... | | |
| | 6 paper boxes, cap size, covered with blue morocco, at $8..... | 18 00 | |
| | | 404 00 | |
| | Deduct 9 treaty boxes, at $25..... | 225 00 | |
| | | | $179 00 |
| Richmond Whig..... | Subscription, March 19, 1849, to March 19, 1850..... | ..... | 8 00 |
| Pennsylvania Inquirer & Gazette.. | Subscription from June 27, 1849, to December 27, 1850..... | ..... | 12 00 |
| N. O. Picayune..... | Subscription to daily from July 1, 1849, to July 1, 1850..... | ..... | 12 00 |



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|---|---|---|---|
| Charleston Courier | Subscription from 31st March, 1849, to September 21, 1850 | | 16 00 |
| J. Disturnell | 4 maps Central America | 4 00 | |
| | 12 National Registers, 1851 | 8 00 | |
| | | | 7 00 |
| Greenborough Patriot | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Texian Advocate | do do do | | 224 00 |
| William J. Fitzpatrick | 14 days' service as extra clerk, at $8 | | 42 00 |
| C. P. Smith | 27 do do do | | 81 00 |
| Dyer & McGuire | 12 plush chairs | | 96 00 |
| Charles V. Gordon | Services as temporary clerk 48 days, at $8 | | 129 00 |
| Joseph Smith | 15 days' labor packing and distributing the pamphlet laws of Little & Brown's edition, at $1 per day | | 15 00 |
| Keokuk Register | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Natchez Courier | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Wisconsin Express | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Michigan Telegraph | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Delaware State Journal | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Raymond W. Burche | Copying, collating 20,950 words (English,) at 10 cents per 100 | | 20 95 |
| Albany Evening Journal | Publishing laws, &c., 1st session 31st Congress | | 206 50 |
| David A. Baird | Making 4 carpets 211¼ yards, at 12½ cents per yard | 26 40 | |
| | Making 4 sets of window curtains, at $2 50 | 10 00 | |
| | 2 fire screens, at $9 | 18 00 | |
| | | 54 40 | |
| | Deduct credit of an old desk, valued at | 8 00 | |
| | | | 51 40 |
| O. K. Barrell | Services as a temporary clerk 27 days, at $3 per day | | 81 00 |
| Charles V. Gordon | Services as a temporary clerk 27 days, at $3 per day | | 81 00 |
| Clagett & Dodson | ½ yard oil cloth, 63 cents; 1¼ yards oil cloth, $1 25 | 1 88 | |
| | ¼ yard table cloth, 50 cents; 240 yards matting, $72 | 72 50 | |
| | 61 yards 6-4 matting, $27 45; 10½ yards oil cloth, $12 81 | 40 26 | |
| | 160 yards 4-4 matting, $48; 34⅔ yards floor cloth, $43 44 | 91 44 | |
| | 1 sheepskin mat, $2; 1 yard wide oil cloth, $1 50 | 8 50 | |
| | 30 1-9 yards wide oil cloth, $37 64; 2 5-9 yards oil cloth, $6 53 | 44 17 | |
| | 1 table cover, $3; 1 piece cord, $1 20; 1 tassel for ball, $1 | 5 20 | |
| | 1 piece binding, 50 cents; ¾ yard oil cloth, 94 cents; 1⅛ dozen towels, $6 75 | 8 19 | |
| | 2 pieces linen tape, 25 cents; 2 spools cotton, 18 cents; 8 tassels, $8 | 8 88 | |
| | 4⅔ square yards oil cloth, $5 83; 9 yards 4-4 matting, $2 81 | 8 64 | |
| | 55 yards velvet carpeting, $187 50; 68½ yards three-ply carpeting, $85 62; 2 rich rugs, $50 | 273 12 | |
| | | | 552 28 |



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| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| Wm. J. Fitzpatrick | Services as temporary clerk 27 days, at $3 | | $81 00 |
| M. Lyons | Copying papers relating to the British blockade of San Salvador, and the case of the Albion, containing 42,224 words | | 42 22 |
| Western Star | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| F. Masi & Co. | Repairing clock | $5 00 | |
| | Repairing clock and new spring, &c | 5 00 | |
| | Attending to the clocks | 20 00 | |
| | | | 80 00 |
| Missouri Statesman | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Rockford Forum | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Taylor & Maury | American Almanacs | 14 00 | |
| | McCulloch's Commercial Dictionary (English) | 17 50 | |
| | Quills, $3 75; 3 reams fine gilt French note paper, $11 25 | 15 00 | |
| | 3 reams thick gilt letter paper, $17 25; ½ ream large superior gilt letter paper, $3 75 | 21 00 | |
| | 4 reams large cream laid note paper, $17; 1,000 cream wove thick envelopes, $3 75 | 20 75 | |
| | 7 boxes envelopes, $5 25; 1,500 white envelopes, large self-sealing, $6 37 | 11 62 | |
| | Gazetteer of America, $4; 14 boxes fine pens, $15 | 19 00 | |
| | Book of the World, 2 vols., $5 50; box carmine ink, $7 50 | 13 00 | |
| | 10 pounds extra wax, $17 50; 10 sheets black lines, 62 cents | 18 12 | |
| | 2 diaries, 63 cents; visiting cards, 37 cents; wafer box, 50 cents | 1 50 | |
| | 1 ream extra large laid note paper, $4; 12 pen holders, 75 cents | 4 75 | |
| | 400 extra quills, $14; bronze inkstand | 18 25 | |
| | | | 174 50 |
| Red River Republican | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| John W. Major | Services as temporary clerk 26 days, at $3 per day | | 78 00 |
| John C. Clark | 6 reams medium parchment paper, at $12 | 72 00 | |
| | 1 packing box and porterage | 1 00 | |
| | | | 73 00 |
| Alabama Journal | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Wm. F. Bayly | 5 glass paper weights, assorted, $12 50 | 12 50 | |
| | 2 dozen enamelled visiting cards | 8 00 | |
| | 2½ dozen Congressional Directories, at $4 50 | 11 25 | |



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| | | | |
|---|---|---|---|
| | 24 reams extra cream laid note paper, at $3 75 | 9 87 | |
| | 6 glass paper weights, assorted | 18 00 | |
| Thomas Stanley | 42 yards 1 coat painting on old work | 8 78 | 84 12 |
| | 292..do..2..do....do.....do | 48 80 | |
| | 26½..do..4..do....do...on stairs | 7 46 | |
| | 117..do..3..do....do...brick floor of passages | 35 10 | |
| | 21 2-9 yards 1 coat green painting on doors | 4 24 | |
| | 288 2-9 yards 2 coats panelled wall, 2 colors | 51 88 | |
| | 49½ yards of oak and mahogany graining to cases | 37 00 | |
| | Commission 2 per cent. on $3 36—for one-half | 1 83 | |
| | | | 185 09 |
| S. De Camp | Printing, ruling and binding 4 quires demy book, register of nominations | ..... | 12 00 |
| Wm. P. Faherty | Compensation as packer, &c., quarter ending 31st March, 1851 | ..... | 250 00 |
| Anthony Best | Services as laborer for quarter | ..... | 90 00 |
| James J. Martin | ....do.....do.....do | ..... | 90 00 |
| James Williamson | ....do.....do.....do | ..... | 90 00 |
| Calvin Ames | Services as laborer 76 days, quarter ending 31st March, 1851 | ..... | 76 00 |
| John T. Stanley | ....do.....do...81 days | ..... | 81 00 |
| Charles H. Brown | ....do.....do...do..do | ..... | 90 00 |
| George Bartle | Furnishing horse for use of department for quarter | ..... | 62 50 |
| Wm. H. Prentiss | Carrying the mail 1 quarter | ..... | 80 00 |
| Joseph Smith | Washing 24 dozen towels | ..... | 18 00 |
| Wm. H. Prentiss | Amount paid petty expenses, viz: | | |
| | Hack-hire public business, $6 25; postage, $1 40; omnibus, 79 cents | 8 44 | |
| | Newspaper carriers, $6; telegraph, $2 72; paste, 6 cents | 8 78 | |
| | Freight, Adams and & Co., $4 50; hack-hire, $12 15; omnibus, $2 09 | 18 74 | |
| | Postage, $1 87; freight, $8; telegraph, $9 88; paste, 56 cents | 14 81 | |
| | Omnibus, $1 69; postage, $1 10; hack, $12 67; telegraph, $38 21 | 53 67 | |
| | Freight, $1 50; hack-hire, $19 06; telegraph, $18 93; omnibus, $2 15 | 41 04 | |
| | Postage, $3 33; paste, 30 cents; postage, 20 cents; hack-hire, $2 50; paste 10 cents | 6 43 | |
| | Telegraph, 77 cents; omnibus, 10 cents | 87 | |
| | Cartage of laws | 8 50 | |
| | | | 161 88 |
| Wm. A. Wheeler & Co | 1 dozen red lead pencils | 1 00 | |
| | 1 ream Morris's cream-laid double folio | 14 00 | |
| | 24 swan quills, at 10 cents | 2 40 | |
| | 1 bottle Stephens's blue fluid | 50 | |
| | 20 pounds twine, at 25 cents | 5 00 | |
| | 1 dozen Rodgers's knives | 20 00 | |



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## A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| Wm. A. Wheeler & Co.—Con... | 2 reams white soft wrapping, at $1 | $2 00 | |
| | ½ ream cream-laid note, 38 cents; 12 pounds scarlet wax, at $1 | 12 38 | |
| | 100 Russia quills, extra, $2 50; 1 bottle mucilage, 25 cents | 2 75 | |
| | 1 brush for mucilage, 25 cents; 6 dozen Faber's, at 50 cents | 3 25 | |
| | ½ ream cream-laid note | 75 | |
| | 2 reams cream-laid note, $3; 1-6 dozen erasers, 50 cents | 3 50 | |
| | 5 reams Hubbard's white super royal, at $17 | 85 00 | |
| | 4 reams gilt note, at $1 50; 2 ivory letter stamps, at 1 cent | 6 02 | |
| | 1 ream Morris's cream-laid demy | 8 00 | |
| | 1 4to demy blank book, $1; 2 reams Morris's cream-laid demy, at $8 | 17 00 | |
| | 1 M buff document envelopes, $3; 1 dozen Faber's gilt pencils, 50 cents | 3 50 | |
| | 4 boxes Woalf's leads, at 25 cents | 1 00 | |
| | 2 letter-weights, at 75 cents | 1 50 | |
| | Making 11,200 white despatch envelopes, extra, at $2 50 | 28 00 | |
| | 12 pounds extra super. scarlet sealing wax | 12 00 | |
| | 49 reams blue-laid consular cap, at $6 25 | 306 80 | |
| | | 535 80 | |
| | Deduct 3 reams cream-laid demy, at $8 ... $24 00 | | |
| | Deduct on 49 reams consular medium cap ... 12 25 | | |
| | | 36 25 | |
| | | 499 55 | |
| | Deduct 20 reams consular cap, charged to foreign intercourse, at $6 | 120 00 | |
| | | | $379 55 |
| W. McL. Cripps | 1 book-case for Secretary of State | | 65 00 |
| Baltimore American | Subscription from March 19, 1850, to March 19, 1851 | | 8 00 |
| Clagett & Dodson | 4 cornices, at $5; 26 yards satin lain, at $2 50 | 85 00 | |
| | 40 yards gimps, at 50 cents | 20 00 | |
| | 4 sets window curtains, at $9 | 36 00 | |
| | 4 pair curtain pins, at $2 | 8 00 | |
| | 8 iron hooks and eyes | 2 00 | |
| | 119½ yards Brussels carpeting, at $1 50 | 179 25 | |

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|---|---|---|---|---|---|---|
| | 9 pieces binding, $4 50; thread $2 | | | | 6 50 | |
| | 1 rich table cover | | | | 10 00 | |
| | 7 7-9 square yards oil-cloth, $9 45; 2¼ yards druggett, $7 69 | | | | 11 14 | |
| | 12 square yards oil-cloth, at $1 25 | | | | 15 00 | |
| | | | | | | 372 89 |
| National Intelligencer | Subscription (4 copies) from October 7, 1850, to April 7, 1851 | | | | | 20 00 |
| | | £ | s. | d. | | |
| John Miller | Westminster Review | | 6 | 0 | | |
| | Subscription to Colonial Magazine, 1 quarter | | 7 | 6 | | |
| | Do.....Blackwood's Magazine, 1 quarter | | 7 | 6 | | |
| | Do. .....Repertory of Arts | | 9 | 0 | | |
| | Quarterly Review | | 6 | 0 | | |
| | Edinburgh Review | | 6 | 0 | | |
| | Hansard's Debates, (index) | 1 | 5 | 0 | | |
| | Index to Quarterly Review, Nos. 159 and 160 | | 12 | 0 | | |
| | Burke's Peerage | 1 | 18 | 0 | | |
| | Court Calender, 5s.; Court Guide, 5s. | | 10 | 0 | | |
| | British Almanack and Companion | | 4 | 0 | | |
| | 2 Parliamentary Companions | | 9 | 0 | | |
| | Diplomatic Revelations, part 1 | | 2 | 3 | | |
| | Edward Southe's Punjaub Frontier, 2 vols | 1 | 18 | 0 | | |
| | Printed cartridge envelopes for newspapers for the President United States | | 6 | 3 | | |
| | 1 year's subscription to Allgemine Zeitung, 1851 | 4 | 4 | 0 | | |
| | Postage of same for 1 year | | 15 | 3 | | |
| | Johnstone's Notes on North America, 2 vols | 1 | 1 | 0 | | |
| | Morning Chronicle, 1 quarter | 1 | 12 | 11 | | |
| | Spectator, 9s. 9d.; Examiner, 6s. 6d. | | 16 | 3 | | |
| | | 17 | 16 | 5 | | 90 04 |
| John T. Stanley | 30 days' services as laborer, packing, distributing laws, &c. | | | | | 30 00 |
| Wm. A. Scott | 4.....do.....do.....do | | | | | 00 |
| Francis Lamb | Regilding old frame, $2; 1 small frame and glass, $1 | | | | | 00 |
| Daily Union | Subscription, 4 copies, from May 1, 1850, to May 1, 1851, at $10 | | | | | 40 00 |
| Philadelphia Daily News | Publishing laws, &c., 2d session 31st Congress | | | | | 93 00 |
| Boston Daily Courier | Publishing laws, &c., 2d session 31st Congress | | | | | 93 00 |
| Lloyd Van Dejveer | 2 maps of Washington city | | | | | 6 00 |
| John Tretler | Arranging and binding 42 volumes of newspapers for 1850, at $4 | | | | 168 00 | |
| | Do.....do....61....do.....do.....do | | | | 244 00 | |
| | | | | | | 412 00 |
| North State Whig | Publishing laws, &c., 2d session 31st Congress | | | | | 93 00 |



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## A—Continued.

| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| State Gazette | Publishing laws, &c., 2d session 31st Congress | | $93 00 |
| National Intelligencer | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| The Republic | 868 copies containing laws, resolutions, &c., 2d session 31st Congress, at 5 cents | | 43 40 |
| Do. | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| California Courier | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| D. McClelland | Printing 250 commissions, at 5 cents | | 12 50 |
| Anthony Best | Putting 2 pieces oil cloth on steps entering garret | 50 12 | |
| | Putting down piece of zinc on first floor | 25 | |
| | Taking up 2 carpets and putting away, at $1 50 | 8 00 | |
| | | | 8 87 |
| New Orleans Bee | Subscription, 10 years, from April 12, 1840, to April 12, 1851, at $12 | | 120 00 |
| Albany State Register | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Ohio State Journal | Publishing laws, &c., 2d session 31st Congress | | 84 00 |
| Adams & Co. | 1 box, Governor of Vermont, Montpelier | 5 00 | |
| | 1....do....do....Maine, Augusta | 5 00 | |
| | 1....do....do....New Hampshire, Concord | 4 25 | |
| | 1....do....do....Connecticut, Hartford | 8 50 | |
| | 1....do....do....Massachusetts, Boston | 8 50 | |
| | 1....do....do....Pennsylvania, Harrisburg | 2 00 | |
| | 1....do....do....New York, Albany | 8 50 | |
| | 1....do....do....Rhode Island, Providence | 8 50 | |
| | 1....do....do....New Jersey, Trenton | 2 75 | |
| | 1 box, Superintendent Naval Lyceum, Brooklyn | 2 50 | |
| | 1 box, Governor of Tennessee, Nashville | 8 88 | |
| | 1....do....do....Louisiana, Baton Rouge | 5 25 | |
| | 1....do....do....Kentucky, Frankfort | 4 25 | |
| | 1....do....do....Delaware, Dover | 2 00 | |
| | 1....do....do....Texas, Austin | 5 75 | |
| | 1....do....do....Ohio, Columbus | 5 00 | |
| | 1....do....do....Michigan, Zansing | 6 50 | |
| | 1....do....do....Georgia, Milledgeville | 5 00 | |
| | 1....do....do....North Carolina, Raleigh | 3 00 | |
| | 1....do....do....South Carolina, Columbia | 4 75 | |



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|---|---|---|---|
| | 1....do....do.....Maryland, Annapolis | 1 00 | |
| | 1....do....do.....Alabama, Montgomery | 6 50 | |
| | 1....do....do.....Virginia, Richmond | 2 00 | |
| | 1....do....do.....Arkansas, Little Rock | 6 75 | |
| | 1....do....do.....Indiana, Indianapolis | 6 00 | |
| | 1....do....do.....Missouri, Jefferson city | 6 50 | |
| | 1....do....do.....Mississippi, Jackson | 6 12 | |
| | 1....do....do.....Illinois, Springfield | 6 50 | |
| | 1 box, legation United States, Rio de Janiero | 1 75 | |
| | 1.....do.....do.....Lima, Peru, care of W. H. Morell, New York | 1 50 | |
| | 1.....do.....do.....St. Jago de Chili | 1 50 | |
| | 1 box, D. R. Mortuscilli, New York | 2 25 | |
| | 1 box, C. S. Haasecht, New York | 2 25 | |
| | 1 box, W. H. Aspinwall, New York | 2 25 | |
| | 1 box, J. C. Figaniere, New York | 2 25 | |
| | 1 box, L. B. Bonsel | 2 25 | |
| | 1 box, M. S. De Bille, Philadelphia | 1 50 | |
| | 1 box, consul of Bavaria, care of C. F. Hagedon, Philadelphia | 1 50 | |
| | 1 box, governor of Oregon, care of Workman & Co., Philadelphia | 1 75 | |
| | 1 box, governor of California, care of Workman & Co., Philadelphia | 1 75 | |
| | 1 box, legation of the United States, Honolulu, care of Workman & Co | 1 75 | |
| | 1....do.....do.....Caraccas, care of Dallet & Bro., Philadelphia | 1 00 | |
| | 1....do.....do.....Equador, care W. H. Morell, New York | 1 50 | |
| | 1....do.....do.....Canton, China, care of W. H. Morell, New York | 1 50 | |
| | 2 boxes, President of Boston Athéneum, Boston | 14 80 | |
| | 2 boxes, President of Pennsylvania College, Gettysburg | 8 00 | |
| | 1 box, Hon. W. D. Merrick, Annapolis | 2 00 | |
| | 1 box, President of Columbia College, care of A. Duer, New York | 2 25 | |
| | 2 boxes, Maryland Historical Society, care of Brantz Mayer, Baltimore | 2 00 | |
| | 6 boxes, governor of Utah, care of P. E. Brocchus, Painesville, Iowa | 71 50 | |
| | Commission on 58 packages at 50 cents | 29 00 | |
| | | | 279 05 |
| Norwich Courier | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Pittsburg Gazette | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Delaware Republican | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Louisville Journal | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| N. O. Commercial Bulletin | Subscription one year from April 1, 1850, to April 1, 1851 | | 12 00 |
| N. O. Commercial Bulletin | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Richmond Whig | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| J. D. Brown | 1 office chair | | 15 00 |



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| To whom paid. | Articles furnished or services rendered. | Amount. | Total. |
|---|---|---|---|
| W. A. Scott | 6 days' services, assistant messenger | | $16 00 |
| Courier des Etats Unis | Subscription from February 1, 1850, to February 1, 1851 | | 8 00 |
| Natchez Courier | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Mobile Advertiser | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| J. M. Donn & Brother | Shovel and tongs | $3 50 | |
| | 1 water cooler | 6 00 | |
| | | | 9 50 |
| William Orme | 7½ pounds almond soap, at 25 cents per pound | | 1 88 |
| Florida Republican | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Providence Journal | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Minnesota Pioneer | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| North American Review | Subscription from January, 1850, to January, 1851 | | 5 00 |
| Savannah Republican | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Detroit Advertiser | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Indiana State Journal | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Minnesota Register | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| J. M. Donn & Brother | 1 basket, $1 50; 3 paper do., $3 | | 4 50 |
| Vermont Whig | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Wm. F. Bayly | 2 reams English blotting paper | 12 00 | |
| | 2 portfolios, $2 50; patent inkstand, $1 75 | 4 25 | |
| | 1 pair long shears, $1 75; 1 pair scissors, 50 cents | 2 25 | |
| | | | 18 50 |
| Southern Whig | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Wabash Express | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Des Moines Whig | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Southern Shield | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Southern Shield | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| Southern Recorder | Publishing laws, &c., 1st session 31st Congress | | 224 00 |
| Cincinnati Gazette | Publishing laws, &c., 2d session 31st Congress | | 93 00 |
| John Crome | Repairing 2 screens, 37 cents; repairing 1 inkstand, 19 cents | 56 | |
| | Repairing pumping machine, 19 cents; repairing inkstand, 19 cents | 38 | |
| | Repairing andiron, 50 cents; putting lock on mail-bag, 13 cents | 63 | |
| | Opening lock and furnishing key, 37 cents; opening lock and repairing do., 38 cents | 75 | |



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| | | | |
|---|---|---|---|
| | Opening lock and furnishing 3 keys, 87 cents; fitting 4 keys and one key-ring, $1 18 | 2 00 | |
| | Repairing printing machine | 75 | |
| | | | 5 07 |
| Campbell and Coyle | 1½ dozen candlesticks, at $11 40 | | 17 10 |
| William P. Faherty | Compensation as packer, &c., for the quarter ending June 80 | | 250 00 |
| George Bartle | Furnishing horse for the quarter | | 62 50 |
| William H. Prentiss | Carrying the mails for the quarter | | 80 00 |
| James Williamson | Services as laborer for the quarter | | 90 00 |
| James J. Martin | Services as laborer for the quarter | | 90 00 |
| Anthony Best | Services as laborer for the quarter | | 90 00 |
| Calvin Ames | Services as laborer for the quarter | | 90 00 |
| Charles H. Brown | Services as laborer for the quarter | | 90 00 |
| Wm. H. Prentiss | Amount paid—petty expenses, viz: omnibus hire, 87 cents; postage, $1 76; hack hire, $3 25 | 5 89 | |
| | Telegraph, $2; rosin and paste, 16 cents; freight, $8 | 10 16 | |
| | Postage, $1 10; paste and cotton, $1; telegraph, $9 28 | 11 88 | |
| | Omnibus, 75 cents; hack hire, 25 cents; cartage, $8 75 | 9 75 | |
| | Freight, $5; cooperage, $1 13; postages, $3 74 | 9 87 | |
| | Telegraph, $23 73; omnibus, $1 05; hack hire, $4 75 | 29 53 | |
| | Freight, $1 50; paste and cartage, 93 cents | 2 43 | |
| | Repairing mail bags, $1 12; cement, 50 cents; omnibus, $1 68 | 3 30 | |
| | Postages, $1 87; telegraph, $15 35; hack, $7 62 | 24 84 | |
| | Freight, $3 13; oil-cloth and cartage, $2 75 | 5 88 | |
| | Blacking, 13 cents; postage, $2 80; omnibus, 73 cents | 3 66 | |
| | Telegraph, 54 cents; hack, 50 cents | 1 04 | |
| | | 117 23 | |
| | Deduct telegraph messages, foreign intercourse | 25 80 | |
| | | | 91 43 |
| Joseph Smith | Washing 24 dozen towels | | 18 00 |
| Adams & Co. | Freight and charges on boxes, to wit: 3 boxes to President Belvit College, Belvit | 24 00 | |
| | 7 boxes to Governor of Alabama, Montgomery | 75 00 | |
| | 1 box to Governor of Minnesota, St. Paul | 10 50 | |
| | 1 box to Governor of Oregon, care of Howland and Aspinwall, New York | 2 25 | |
| | 2 boxes to C. Lathrop, Madison, Wisconsin | 31 50 | |
| | Commission on 14 boxes, at 50 cents | 7 00 | |
| | | | 150 25 |
| | | | 32,292 48 |





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B.

*Statement of the balance of the appropriation for the contingent expenses of the office of the Secretary of State, including printing and publishing the laws, remaining in the treasury on the 30th June, 1851.*

| | |
|---|---|
| Balance remaining in the treasury | $20,116 45 |

C.

The undersigned, agent of the Department of State, has the honor to submit to the Secretary of State a precise and analytical statement of all the moneys disbursed during the fiscal year ending June 30, 1851.

| Object. | | Amount. |
|---|---|---|
| Incidental and contingent expenses Department of State, viz:— | | |
| Publishing, packing and distributing laws, and distributing documents, including proof-reading, making indexes, labor, boxes and transportation | $20,503 19 | |
| Stationery, blank books and book-binding | 4,043 74 | |
| Labor and attendance | 1,171 99 | |
| Furniture, fixtures, repairs, painting and glazing | 2,493 67 | |
| Extra clerk hire and copying | 1,386 17 | |
| Printing and advertising | 394 30 | |
| Newspapers | 901 48 | |
| Books and maps | 337 73 | |
| Miscellaneous items | 1,060 16 | |
| | | $32,292 48 |
| For salaries of the Secretary of State and of the clerks in his department | | 28,512 76 |
| For salaries of the superintendent and watchmen of the Northeast Executive building | | 1,710 00 |
| For contingent expenses of the Northeast Executive building | | 8,765 60 |
| For contingent expenses of foreign intercourse | | 22,085 25 |
| For contingent expenses of all the missions abroad | | 33,064 24 |
| | | 121,430 28 |

WM. C. ZANTZINGER, *Agent.*

March 4, 1852.

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D.

*Statement of expenditures from the fund for the contingent expenses of foreign intercourse from the 1st of December, 1850, to the 30th of November, 1851, inclusive, made agreeably to the second section of the act of 9th May, 1836, entitled "An act making appropriations for the civil and diplomatic expenses of government for the year one thousand eight hundred and thirty-six."*

| To whom paid. | Object. | Amount. |
|---|---|---|
| F. Masi & Co | Clasps for treaty boxes | $185 00 |
| Edward Stabler | Making 4 seals | 80 00 |
| David A. Baird | Silk flags for legation | 268 00 |
| W. H. Prentiss | Cartage on books for legations | 4 50 |
| Robert B. Campbell | Consul, Havana, expenses, &c | 132 00 |
| W. T. Porter | Painting consular and commercial agency arms | 800 00 |
| T. L. Crittenden | Consul, Liverpool, postages, &c | 74 09 |
| New York Daily Express | Advertising | 8 00 |
| J. B. Walton | Bearer of despatches to Texas and back, expenses | 198 35 |
| Workman & Co | Freight to San Francisco | 18 65 |
| W. H. Morell | Despatch agent, New York, salary and expenses | 278 58 |
| Daniel Campbell | Trunks for legation | 85 00 |
| Jonathan Elliot | Commercial agent, St. Domingo, expenses | 66 67 |
| John D. Diomatari | Consul, Athens, postages | 12 28 |
| Charles Benjamin | Consul, Demerara, rept. postages | 88 14 |
| Gideon & Co | Publishing treaties, &c | 101 88 |
| Daniel Hauptman & Sons | Tin flag cases and boxes | 148 75 |
| Robert Greenhow | Special agent to Mexico (balance) | 209 27 |
| A. B. Corwine | Consul, Panama, rept. postages | 82 95 |
| Robert P. DeSilver | Consul, Macao, postages, flag-staff, &c | 119 51 |
| John Miller | Despatch agent, London, postages, &c | 463 96 |
| William T. Purnell | Bearer of despatches from Rio de Janeiro | 104 30 |
| Thomas Hale | Advertising | 1 00 |
| Southey Grinalds | Consul, Puerto Cabello, flag-staff and postages | 12 60 |
| John A. Blake | Making treaty boxes | 225 00 |
| F. B. Ogden | Consul, Bristol, rept. postages | 9 88 |
| W. T. Switzler | Advertising | 2 00 |



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| To whom paid. | Object. | Amount. |
|---|---|---|
| William S. Campbell | Consul, Rotterdam, postages, &c | $251 68 |
| Thomas Ritchie | Advertising | 2 00 |
| Robert Walsh | Consul, Paris, postages, &c | 89 00 |
| B. H. Norton | Consul, Pictou, rept. postages | 9 48 |
| Stanhope Prevost | Consul, Lima, postages, &c | 100 76 |
| N. Burchard | Consul, Basle, postages, arms, &c | 59 57 |
| John M. Marston | Consul, Palermo, postages | 5 27 |
| S. E. Sprague | Copying | 5 00 |
| W. L. Hodge | Advertising | 6 60 |
| Do | do | 2 00 |
| Knowles & Anthony | do | 1 00 |
| Samuel L. M. Barlow | Bearer of despatches to and from Mexico | 1,000 24 |
| Gales & Seaton | Advertising | 84 50 |
| William A. Weeks | Despatch agent, Boston, salary and expenses | 222 70 |
| Edward Stabler | Consular presses | 460 00 |
| Thomas H. Looker | Bearer of despatches from Rio de Janeiro, expenses | 40 00 |
| Z. W. Potter | Consul, Valparaiso, postages | 49 12 |
| Samuel Bromberg | Consul, Hamburg, postages | 20 74 |
| W. Tudor Tucker | Consul, Bermuda, flag-staff, &c | 76 78 |
| David A. Baird | Silk flags for legations | 268 00 |
| C. D. Arfwedson | Consul, Stockholm, postages | 30 21 |
| David A. Baird | 24 consular flags | 860 00 |
| T. L. Crittenden | Consul, Liverpool, postages, newspapers, &c | 87 98 |
| Do | do do salary as despatch agent | 222 22 |
| W. P. Rogers | Consul, Vera Cruz, postages | 20 00 |
| John D. Diomatari | Consul, Athens, postages | 10 00 |
| W. P. Morris | Consul, St. Thomas, flag-staff | 6 00 |
| Greely & McElrath | Advertising | 3 00 |
| Franklin Chase | Consul, Tampico, postages | 118 38 |
| Thomas Stanley | Marking boxes and trunks | 14 50 |
| Daniel Campbell | Trunks, &c., &c | 79 25 |
| William H. Morell | Despatch agent, New York, salary and expenses | 269 65 |
| Francis Markoe | Expenses to New York and back (8 days) | 46 75 |



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| | | |
|---|---|---|
| Alexander H. Clements | Consul, Messina, rept. postages | 5 96 |
| Washington Telegraph Company | Telegraphing | 16 85 |
| William A. Wheeler & Co | Stationery for legations | 120 00 |
| George Hopkins | Services preparing report on claims against Portugal | 600 00 |
| New Orleans Picayune | Advertising | 8 00 |
| William Hunter | Expenses to and from Philadelphia | 15 55 |
| Charles Benjamin | Consul, Demarara, rept. postages | 1 01 |
| D. O. Hare | Engraving | 1 00 |
| John N. Alsop Griswold | Consul, Shanghi, flags | 180 20 |
| Gales & Seaton | Newspapers for legations | 84 00 |
| John Miller | Despatch agent, London, postages | 463 60 |
| J. T. Towers | Printing | 8 00 |
| Alex. Barclay | Consul, Gottenburg, postages | 20 26 |
| W. & N. O. Telegraph Company | Telegraphing | 13 08 |
| Washington Telegraph Company | do | 10 90 |
| N. Burchard | Consul, Switzerland, postages | 24 88 |
| R. B. Forbes | Vice-consul, Canton, flags, &c | 148 91 |
| T. Ritchie | Newspapers for legations | 120 00 |
| F. T. Bush | Consul, Hong Kong, flag-staff | 100 76 |
| John Somers Smith | Consul, Malaga, rept. postages | 4 91 |
| Ralph King | Consul, Bremen, rept. postages | 8 99 |
| D. O. Kellogg | Consul, Glasgow, rept. postages | 82 |
| H. T. A Rainals | Consul, Elsinore, rept. postages | 20 93 |
| William Crosby | Consul, Talcahuana, flag | 28 85 |
| William H. Vesey | Consul, Antwerp, rept. postages | 8 87 |
| James Busby | Vice-consul, Bay of Islands, rept. postages | 1 52 |
| New York Commercial Advertiser | Advertising | 12 00 |
| D. McClelland | Printing | 225 75 |
| George Read | Consul, Malaga, rept. postages | 6 85 |
| Adams & Co.'s Express | Freight on boxes | 90 99 |
| Charles William Bradley | Consul, Amoy, flag-staff and postages | 53 78 |
| Stewart Steel | Late consul, Dundee, postages | 23 88 |
| William A. Weeks | Despatch agent, Boston, salary and expenses | 216 80 |
| John Morland | Acting consul, Havana, postages | 80 50 |
| Charles Obermayer | Consul, Augsburg, postages | 12 60 |
| A. B. Corwine | Consul, Panama, rept. postages | 34 63 |
| Lorenzo Draper | Consul, Havre, postages | 30 80 |
| Thomas Ritchie | Documents | 8 00 |
| Daniel Campbell | Trunks for legations | 82 00 |
| John Morland | Acting consul, Havana, rept. postages | 2 99 |

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## D—Continued.

| To whom paid. | Object. | Amount. |
|---|---|---|
| Walter Harper & Co. | Brown cotton for despatch bags | $21 00 |
| T. L. Crittenden | Consul, Liverpool, postages, &c. | 65 55 |
| Z. W. Potter | Consul, Valparaiso, rept. postages, &c. | 97 75 |
| Robert M. Walsh | Special agent to Hayti and Dominican Republic | 1,640 00 |
| G. J. Abbot | Expenses to and from Portland, Maine | 90 85 |
| Lieutenant R. E. Johnson | Bearer of despatches from Sandwich Islands | 461 00 |
| Lorenzo Draper | Consul, Havre, postages, &c | 28 66 |
| William H. Morell | Despatch agent, New York, salary and expenses | 273 57 |
| William H. Prentiss | Telegraphing | 25 80 |
| Vermont Union Whig | Advertising | 1 00 |
| B. M. Edney | Consul, Palermo, arms | 24 00 |
| National Intelligencer | Advertising | 35 50 |
| B. M. Edney | Consul, Palermo, postages | 8 95 |
| Albert Fitz | Bearer of despatches to and from, Lima, compensation and expenses | 2,238 40 |
| M. P. Garre | Consul, Guayaquil, freight, &c | 60 50 |
| Louis Baker | Consul, Laguayra, rept. postages | 38 85 |
| David A. Baird | 18 consular flags | 270 00 |
| Lewis Morris | Consul, Campeachy, rept. postages | 2 00 |
| Do | ....do.....flag-staff, &c | 21 00 |
| Thomas M. Rodney | Consul, Matanzas, rept. postages | 1 97 |
| Vermont Belknap Gazette | Advertising | 2 00 |
| Daniel Ratcliffe | Compensation and expenses to and from Boston on public business | 170 00 |
| The Republic | Advertising | 47 90 |
| Do. | Newspapers for legations | 162 00 |
| Charles Le Brown | Acting consul, Teneriffe, rept. postages | 4 75 |
| The Union | Newspaper for legation | 10 00 |
| John Miller | Despatch agent, London, postages | 556 04 |
| Charles Bunker | Consul, Lahaina, rept. postages | 6 30 |
| James McDowell | Consul, Dundee, rept. postages | 12 22 |
| William A. Wheeler & Co | Stationery for legations | 40 00 |
| Lieutenant Robert E. Johnson | Bearer of despatches to Honolulu, Sandwich Islands, expenses | 500 00 |
| David A. Baird | Flags for consulates | 480 00 |
| Do. | Two silk flags for legations | 268 00 |



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| | | |
|---|---|---|
| Montgomery D. Parker | Consul, Cape de Verd Islands, rept. postages | 3 56 |
| Hiram Roberts | Collector at Savannah, Georgia, for expenses incurred to suppress an expedition against the island of Cuba | 754 00 |
| Samuel McLean | Consul, Trinida de Cuba, postages | 27 50 |
| Lorenzo Draper | Consul, Havre, postages | 27 80 |
| William A. Weeks | Despatch agent, Boston, salary and expenses | 214 80 |
| Cecelia H. Martin | Making cotton despatch bags | 22 28 |
| Alfred Mitchell | Consul, Cork, rept. postages | 25 89 |
| Springfield Republican | Advertising | 2 00 |
| N. M. Moro | Vice-consul, Genoa, postages | 51 50 |
| A. F. Owen | Consul, Havana, postages, &c | 38 94 |
| J. E. Rockwell | Expenses to and from New York with treaty | 26 60 |
| The Iowa Republican | Advertising | 4 00 |
| Oregon Spectator | do | 5 00 |
| W. & N. O. Telegraph Company | Telegraphing | 22 54 |
| William H. Prentiss | Paid for telegraphing | 30 01 |
| William H. Morell | Despatch agent, New York, salary and expenses | 260 16 |
| William C. Zantzinger | Expenses to and from Boston on public business | 66 98 |
| David A. Baird | Flags for consulates | 375 00 |
| W. K. Morris | Commercial agent, St. Thomas, rept. postages | 5 50 |
| A. B. Corwine | Consul, Panama, rept. postages | 69 30 |
| T. L. Crittenden | Consul, Liverpool, postages, &c | 87 85 |
| Do. | do salary as despatch agent | 222 22 |
| Alfred Ward | Acting consul, Valparaiso, rept. postages | 101 63 |
| National Intelligencer | Newspapers for legations | 89 00 |
| Do. | Advertising | 50 50 |
| John Miller | Despatch agent, London, postages, &c | 562 13 |
| Baltimore Patriot | Advertising | 3 00 |
| W. & N. O. Telegraph Company | Telegraphing | 14 24 |
| Adams & Co.'s Express | Freight on mail bags for legations | 3 25 |
| Cecelia H. Martin | Making cotton despatch bags | 4 10 |
| N. O. Telegraph Company | Telegraphing | 2 52 |
| Daniel Campbell | Trunks, &c | 51 25 |
| F. H. Clack | Bearer of despatches from Rio de Janeiro, expenses | 175 00 |
| S. H. Weems | Late ——, Guatemala, postages | 170 00 |
| J. Collier | Expenses incurred for distressed females | 172 00 |
| John B. Baker | Mail bags for legations | 132 00 |
| Robert Walsh | Consul, Paris, postages, &c | 94 80 |
| W. T. Porter | Painting consular and commercial arms | 210 00 |
| G. J. Abbot | Expenses to Marshfield and back on public business | 93 87 |



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## D—Continued.

| To whom paid. | Object. | Amount. |
|---|---|---|
| Joshua R. Sands | Expenses incurred in receiving and delivering convention between the United States and Portugal | $65 00 |
| W. A. Weeks | Despatch agent, Boston, salary and expenses | 222 55 |
| N. Burchard | Consul, Basle, postages, &c | 18 53 |
| George Bartle | Copying map | 5 00 |
| | Total | 22,085 25 |



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## E.

*Statement of the contingent expenses of all missions abroad, other than what may have been paid by the agent of the Department of State; as shown by the accounts of the United States ministers and others, received and adjusted at this office from July 1, 1850, to June 30, 1851.*

| | | |
|---|---|---|
| Thomas M. Foote, late chargé d'affaires to New Grenada— | | |
| For amount of his contingent expenses from June 4, 1849, to October 1, 1850, consisting of postages, stationery, newspapers, freight on public documents, rent of a room for preservation of archives, presents to servants, and for return allowance, per report No. 10,139 | | $1,725 00 |
| Robert C. Yates, late acting secretary of legation at Rio de Janeiro— | | |
| For amount of his salary after the death of Mr. Morgan, the secretary, from March 30, 1850, to September 30, following, 6 months, at $2,000 per annum, per report No. 10,147 | $1,000 00 | |
| For amount of salary from September 30, 1850, to August 20, 1851; also from January 29, to July 29, 1849, and loss in exchange by his drafts on the Secretary of State, per report No. 10,846 | 3,410 25 | |
| | | 4,410 25 |
| William A. Harris, chargé d'affaires to Buenos Ayres— | | |
| For amount of his contingent expenses from April 1, 1849, to March 31, 1850, consisting of stationery, office furniture, expenses on flag, also for loss in exchange, per report No. 10,164 | | 1,011 46 |
| B. Willet, carpenter— | | |
| For making 2 large book-cases for use of the legation at Lima, and transporting them to New York, per report No. 10,168 | | 222 35 |
| William H. Stiles, late chargé d'affaires to Austria— | | |
| For amount of his contingent expenses from January 1, 1849, to August 31, following, consisting of postages, stationery, presents to servants, carriage on public documents, printing passports, and return allowance, per report No. 10,176 | | 1,558 51 |
| John T. Van Alen, late chargé d'affaires to Ecuador— | | |
| For amount of his contingent expenses from June 5, 1849, to July 20, 1850, consisting of stationery, postage, presents, newspapers, expenses to Quito, loss in exchange, and for return allowance, per report No. 10,200 | | 1,542 20 |
| Dabney S. Carr, late minister resident in Turkey— | | |
| For amount of his contingent expenses from January 1, 1849, to October 20, following, consisting of the usual wages of the domestics of the legation, postages, stationery, newspapers, presents, return allowance and loss in exchange, per report No. 10,214 | | 2,927 78 |
| James Watson Webb, late chargé d'affaires to Austria— | | |
| For amount of his contingent expenses from November 1, 1849, to September 26, 1850, consisting of stationery, postage, freight on documents and newspapers, and for return allowance, per report No. 10,215 | | 1,471 48 |
| William C. Rives, minister to France— | | |
| For amount of his contingent expenses from April 1 to September 30, 1850, consisting of postages, stationery, newspapers, freight on documents, office rent, fuel for office, wages of office messenger, and loss in exchange, per report No. 10,219 | | 929 40 |
| James B. Clay, late chargé d'affaires to Portugal— | | |
| For amount of his contingent expenses from August 1, 1849 to November 18, 1850, consisting of postage, stationery, freight on documents, newspapers, presents to servants and return allowance, per report No. 10,222 | | 1,591 59 |
| E. George Squier, late chargé d'affaires to Central America— | | |
| For amount of his contingent expenses from April 1 to June 28, 1850, consisting of postages, stationery and return allowance, per report No. 10,234 | | 1,177 24 |

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E—Continued.

| | |
|---|---|
| Baring Brothers & Co., bankers at London—<br>For amount lost in exchange on bills purchased and remitted to them between January 1 and December 31, 1850, per report No. 10,302 | $2,207 64 |
| Estate of Jacob L. Martin, deceased, late chargé d'affaires at Rome—<br>For amount re-imbursed Messrs. Palahan, Hooper & Co., of Rome, and John Miller, of London, for stationery supplied by them in 1848, per reports Nos. 10,349 and 10,630, $19 03 and $52 65 | 71 68 |
| Anguste Davezac, late chargé d'affaires to the Netherlands—<br>For amount of his contingent expenses, from January 1, 1848, to September 18, 1850, consisting of postages, freight and transportation of documents, expenses of illuminations, presents to servants, return allowance, and for loss in exchange, per report No. 10,358 | 1,946 26 |
| Thomas G. Clemson, late chargé d'affaires to Belgium—<br>For amount of his contingent expenses from April 1, 1850, to March 1, 1851, consisting of postages, stationery, newspapers, presents to servants, freight on documents, return allowance and loss in exchange, per report No. 10,363 | 1,774 84 |
| Lewis Cass, jr., chargé d'affaires at Rome—<br>For amount of his contingent expenses from January 21, 1849, to December 31, 1850, consisting of postages, stationery, newspapers, expenses on flag, office seal, presents to servants and loss in exchange, per report No. 10,374 | 1,114 25 |
| John Miller, agent of the Department of State, London—<br>For stationery supplied by him between October 2, 1848, and June 30, 1849, to H. L. Ellsworth, late chargé d'affaires at Stockholm, per report No. 10,602 | 97 00 |
| Henry S. Sanford, secretary legation at Paris—<br>For amount lost in exchange by his drafts on the United States bankers at London, from October 20, 1849, to December 31, 1850, per report No. 10,604 | 69 87 |
| Walter Forward, chargé d'affaires to Denmark—<br>For amount of his contingent expenses from January 1, 1850, to March 31, 1851, consisting of postage, stationery, newspapers, and presents to servants, per report No. 10,608 | 340 70 |
| Neill S. Brown, minister to Russia—<br>For amount of his contingent expenses from May 2, 1850, to February 2, 1851, consisting of stationery, newspapers, freight on documents, presents to servants, and loss in exchange, per report No. 10,637 | 451 07 |
| Edward Joy Morris, chargé d'affaires to King of the Two Sicilies—<br>For amount of his contingent expenses from January 10, 1850, to March 31, 1851, consisting of postages, newspapers, stationery, and presents to servants, per report No. 10,664 | 498 18 |
| Francis Schrœder, chargé d'affaires to Sweden—<br>For amount of his contingent expenses from November 1, 1849, to December 31, 1850, consisting of postages, stationery, newspapers, freight on documents, binding despatch book, removing the books, papers, and furniture of his office, presents to servants, and loss in exchange, per report No. 10,725 | 655 54 |
| William B. Kinney, chargé d'affaires to Sardinia—<br>For amount of his contingent expenses from April 22, 1850, to March 31, 1851, consisting of postages, stationery, freight on documents, newspapers, repairs to office furniture, removing the books, papers, &c., of his office, and loss in exchange, per report No. 10,668 | 498 84 |

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E—Continued.

| | |
|---|---|
| Daniel M. Barringer, minister to Spain—<br>For amount of his contingent expenses from July 1, 1850, to March 31, 1851, consisting of postages, stationery, newspapers, freight on documents, and presents to servants, per report No. 10,706 | $703 95 |
| Daniel D. Barnard, minister to Prussia—<br>For amount of his contingent expenses from September 3, 1850, to June 30, 1851, consisting of postages, stationery, repairs to office furniture, expenses of illuminations, presents to servants, and loss in exchange, per report No. 10,721 | 784 22 |
| Theodore S. Fay, secretary of legation to Prussia—<br>For amount of loss in exchange by his drafts on the United States bankers at London, from January 1, 1842, to June 26, 1851, per report No. 10,722 | 423 07 |
| Balie Peyton, minister to Chili—<br>For amount of his contingent expenses from July 6, 1849, to March 31, 1851, consisting of postages, stationery, newspapers, room rent for archives of the legation, removing books, papers, and furniture of his office, and expenses of illuminations and loss in exchange, per report No. 10,729 | 600 86 |
| Luther Severance, commissioner to Sandwich Islands—<br>For amount of his contingent expenses from June 7, 1850, to June 30, 1851, consisting of postages, stationery, newspapers, freight on documents, binding office book, expenses of advertising, repairs to flag, and loss in exchange, per report No. 10,745 | 302 09 |
| George Folsom, chargé d'affaires to the Netherlands—<br>For amount of his contingent expenses from May 14, 1850, to June 30, 1851, consisting of postages, stationery, freight on documents, office furniture, and presents to servants, per report No. 10,748 | 190 69 |
| Alexander H. McClung, late chargé d'affaires to Bolivia—<br>For amount of his contingent expenses from May 29, 1849, to June 30, 1851, consisting of postages, expenses on flag, and return allowance, per report No. 10,807 | 1,264 00 |
| Jesse B. Holman, secretary of legation to Chili—<br>For amount lost in exchange by his drafts on Secretary of State from June 24, 1850, to June 30, 1851, per report No. 10,824 | 97 73 |
| John Randolph Clay, secretary of legation to Peru—<br>For amount of his contingent expenses from July 1, 1850, to June 30, 1851, consisting of postages, stationery, newspapers, and freight on documents, per report No. 10,890 | 404 55 |
| Total | 33,064 24 |

TREASURY DEPARTMENT,
*Fifth Auditor's Office, December 9, 1851.*



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IN THE SENATE OF THE UNITED STATES.

March 10, 1852.
Ordered to be printed.

Mr. Gwin submitted the following

# DOCUMENT:

[To accompany bill S. No. 282.]

War Department,
*Washington, February* 19, 1852.

Sir: I have received your letter of the 6th inst., requesting this department to furnish, through the topographical engineers who were in California, engaged on the Mexican boundary commission, such information, in their possession, as will aid the Committee on Naval Affairs in reporting on the resolution of the Senate directing them "to inquire into the expediency of appropriating such sum of money as may be necessary to divert the river of San Diego into False bay," &c. In reply thereto, I have the honor to transmit herewith the report of the Chief Topographical Engineer, containing a communication on the subject, from Captain Hardcastle, one of the officers connected with the boundary commission.

I have the honor to be, very respectfully, your obedient servant,

C. M. CONRAD,
*Secretary of War.*

Hon. W. M. Gwin,
*Chairman Committee on Naval Affairs, U. S. Senate.*

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Bureau of Topographical Engineers,
*Washington, February* 17, 1852.

Sir: In reply to a letter from the Hon. Mr. Gwin, of the 6th inst., I submit a copy of a report from Brevet Captain Hardcastle.

It will be perceived that Captain Hardcastle draws three lines, A B, of nearly equal length, as probable traces of the new river bed, of which he thinks the choice will have to be the result of more minute investigations.

The same remark will apply to the estimate, which cannot be made with any pretension to accuracy, without a knowledge of the extent of excavation and of embankment which would be required, and of the price and means of labor in that country. But judging of the country as described, generally level between *a b* of the most southern of the three lines, except in reference to price and means of labor, I am disposed to think that the work will not cost much more than the estimate of $30,000.

If the fall from A to B is sufficient, and the intervening soil a loose sand,

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the chief expense will be in an adequate embankment on the southern side of the line, as, under such supposition, an open ditch being made, the river would wash out an adequately large bed for itself. But of the probability of such a result I cannot speak, for the want of more minute investigations than have yet been made.

Respectfully, sir, your obedient servant,

J. J. ABERT,

*Colonel Corps Topographical Engineers.*

Hon. C. M. CONRAD,
*Secretary of War.*

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WASHINGTON, *February* 14, 1852.

SIR: A letter addressed to the Hon. C. M. Conrad, Secretary of War, by the Hon. W. M. Gwin, chairman of Committee on Naval Affairs, requesting certain officers of topographical engineers "to report what opportunities they have had of observing the change in the harbor of San Diego, occasioned by the emptying therein of the river San Diego, and whether it is practicable to divert this stream so as to prevent further obstruction; and if so, state by what means it can be done, and the probable cost," having been referred by you to me, I have the honor to state as follows:

1st. That, for a period of more than two years, I was engaged as an officer of topographical engineers on the survey of that portion of the Mexican boundary extending from the Pacific to the Gila and Colorado rivers. The proximity of the port of San Diego made it our depot of supplies throughout the prosecution of this work, and I had therefore opportunities of observing personally and learning from others the changes that were being produced in the harbor of San Diego, by a stream of the same name emptying into it. These changes consist in an annual deposite at the mouth of said stream, which, by its extension, is gradually filling up the harbor, and, by narrowing the channel, is effecting a serious obstruction to navigation in these waters. For several months of the year the streams of California become dry as they approach the coast, but during the rainy season they are swollen and rapid, partaking more of the nature of mountain torrents; and the water in its turbid state brings down a large amount of earthy matter, which is deposited at the mouth of the stream, where it meets and commingles with the waters of the ocean. This formation at San Diego, marked "grass flats," is shown upon the accompanying sketch, which is copied from the chart of the harbor. It consists of soft mud, which can be easily removed whenever the growing commerce of the port may require it; but it would be folly to remove this obstruction, unless the agent producing it were diverted.

The importance of arresting the further progress of changes which are going on to the detriment of this beautiful harbor is of a national character, for the harbor of San Diego is the most secure and easy of access of any other on our entire Pacific coast. It admits ships of the largest class; and being the only harbor we possess south of San Francisco, (from which it is nearly five hundred miles distant,) it is destined to become, in the rapidly increasing commerce of the Pacific, a port of no secondary importance.

2d. I consider it practicable "to divert this stream" into False bay, "so

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as to prevent further obstruction," by simply constructing a levee, extending from A to B, (see map,) of sufficient strength to resist the greatest volume of water which the stream affords. The feasibility of this will be evident from the fact that the rivulet of San Diego *formerly* emptied into False bay. Of this fact I was informed by Don Miguel Pedrorena, and other intelligent and respectable citizens of that place; and their statements were confirmed, on examination of the ground, by the appearance of what seemed to be an old bed of the stream.

3d. The cost at which the work could be done can only be accurately ascertained from a minute survey of the ground, and with a full knowledge of the force and capacity of the stream, by which the exact amount of excavation, embankment, labor, &c., could be determined. But, from a familiarity with the ground, and a knowledge of the price of labor and material at San Diego, I might, perhaps, approximate to the cost; this I would estimate to be not less than thirty thousand dollars, and possibly more.

I am, sir, very respectfully, your obedient servant,

EDM. L. F. HARDCASTLE,

*Brevet Captain Corps Topographical Engineers.*

Colonel J. J. ABERT,

*Corps of Topographical Engineers.*

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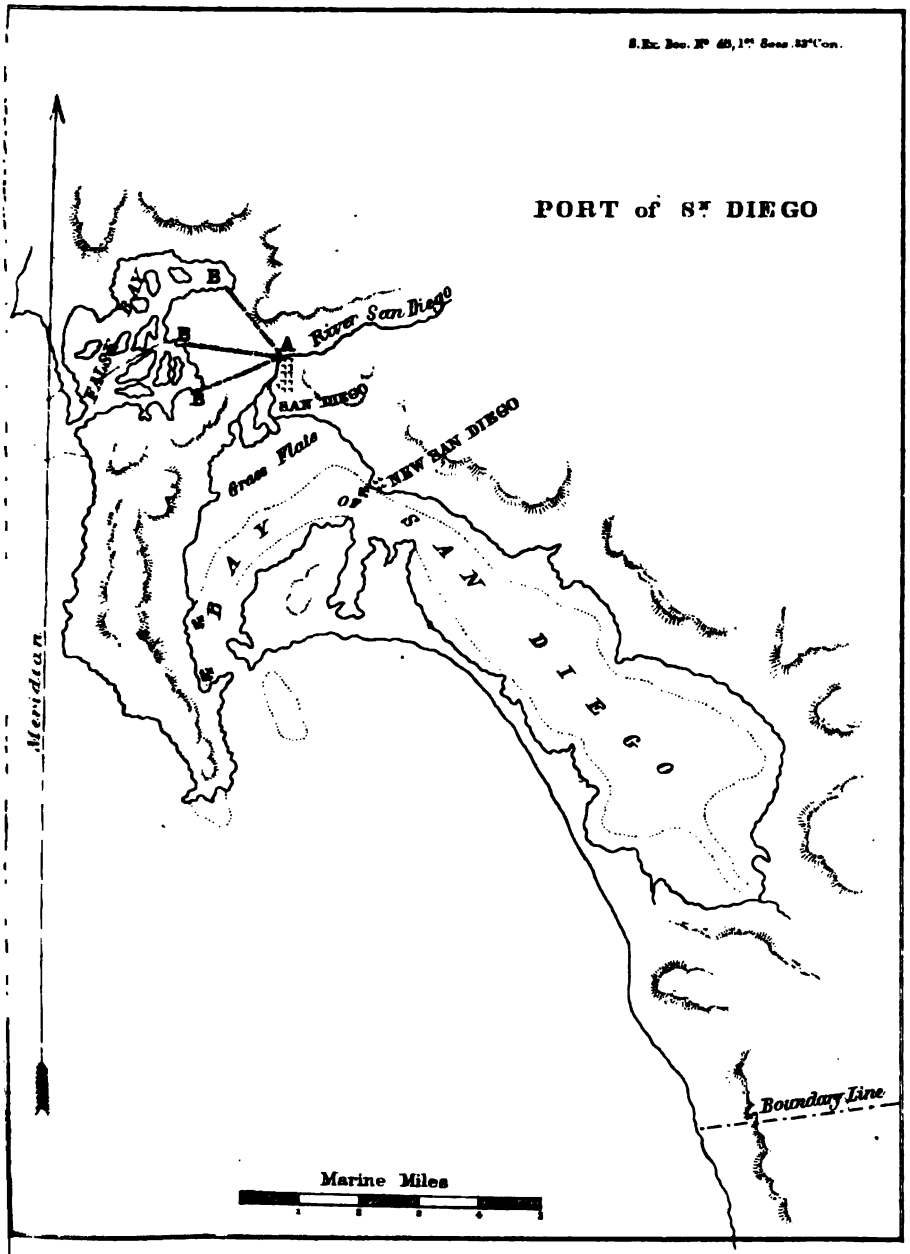


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# LETTER

FROM

# THE SECRETARY OF WAR,

COMMUNICATING,

*In compliance with a resolution of the Senate, a report of the survey, estimates, &c., of a route from St. Louis to the Big Bend of the Red river, by Joshua Barney.*

March 16, 1852.
Ordered to be printed.

War Deprtment,
*Washington, March* 15, 1852.

Sir: In compliance with the resolution of the Senate of the 11th December last, I have the honor to transmit, herewith, the report of the survey, estimates, &c., of a route from St. Louis to the Big Bend of Red river, made under the direction of the Topographical Bureau, by Joshua Barney.

Very respectfully, your obedient servant,

C. M. CONRAD,
*Secretary of War.*

Hon. Wm. R. King,
*President of the Senate.*

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Bureau of Topographical Engineers,
*March* 13, 1852.

Sir: I have the honor to submit the report, estimates and map of the survey of a route for a road from St. Louis to the Big Bend of Red river, called for by a resolution of the Senate of the 11th December, 1851.

Respectfully, sir, your obedient servant,

J. J. ABERT,
*Colonel Corps Topographical Engineers.*

Hon. C. M. Conrad,
*Secretary Department of War.*

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*Survey of route for a Railroad from the Valley of the Mississippi to the Pacific Ocean, commencing at St. Louis, Missouri.*

LOUISVILLE, *May* 25, 1850.

COLONEL: In obedience to your orders of the 15th September, a party was organized and a survey commenced under my direction on the 17th October following; the object of the survey being to determine the elements of a railroad from some point near the southern extremity of the city of St. Louis, to the Arkansas river, intersecting the same not lower than Little Rock.

The want of an adequate number of assistants to operate with the party, and conduct the survey during a mere temporary absence on my part, made it necessary for me to be constantly with it whilst engaged in the field, and precluded the possibility of my devoting the time and attention to the reconnoissance of the country, which, from its features, (as subsequently developed by the survey,) it appeared to require.

In starting, therefore, I was governed by the general aspect of the country in the immediate neighborhood of St. Louis, and from such information as could be collected from those who were supposed to be best acquainted with its geographical and topographical features, on the route then contemplated: which was to take a course from the city of St. Louis, bearing to the west of the Iron mountain, and pursue the same in as direct a line as practicable to the valley of the Maramec river, ascend thence by the valley of some tributary of the Maramec to the general level of the ridges or elevated land between Big river and the Mississippi, and, by maintaining a suitable elevation, pursue the course of the ridges to the sources of Big river, near the Iron mountain; from whence it was supposed a favorable route might be found by the valley of Big Black river, a tributary of which takes its source near the mountain.

A minute survey of this route was made with instruments for a distance of about seventeen miles, which extended across the Maramec river, and ascended the valley of Pomme creek, (a small tributary of the Maramec,) to the dividing ridge between it and Little Rock creek, the valley of which traversed the country nearly at right-angles to the course desired. On reaching this point, it became apparent this route was impracticable; in advance of it and to arrive at it, difficulties of a very serious nature must be overcome; ascents and descents had been encountered, over which grades of seventy, eighty, and ninety feet per mile, could only be attained by very expensive excavations and embankments; and the country intermediate, between St. Louis and the Maramec, did not, within the range of the eye, from the most elevated points, present, on either side of the line, a route which appeared more favorable in the least degree.

The bottom land of the valley of Little Rock creek, where the line would intersect it, is elevated but little above the bottom in the valley of the Maramec, the ascent from which, to the summit of the dividing ridge, at its lowest depression, was found to be about one hundred and seventy-five feet, making it impossible to establish a grade by practical cuttings and fillings, of less than about ninety feet per mile. The valley is spacious: the hills bordering it on the south were of much greater altitude than those on the north, and declivities were presented which could be only overcome by inclined planes. It was consequently thought expedient to terminate

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the line at this point, and, before extending the surveys any further in this direction, make a general examination of the country.

The subsequent examinations made it conclusive to me, that no practicable route for a railroad could be found, which would traverse the country intermediate between the valley of Big river and that of the Mississippi, in the direction contemplated. You will perceive, by a reference to the map of Missouri, that these valleys are almost parallel to each other for some distance, the former river flowing in a northwesterly, the latter in a southeasterly direction. The country situated between the two is intersected by innumerable tributaries flowing in contrary directions, frequently interlocking and running parallel to each other. The ridges between these tributaries are of great elevation, and increase in altitude as they approach the Iron mountain. The valleys deeply indent the country, having very abrupt terminations at their heads, the principal descent being within the first half mile from the summit of the ridge, from the foot of which the streams flowing west to Big river have but very little fall.

The ridge dividing between Big river and the Mississippi has no defined course, and when on the summit of it, it is very difficult to trace it. It is a succession of knobs and depressions, and the crest is made so exceedingly tortuous by the deep identations of the ravines on each side, frequently (as I have before stated) interlocking with each other, that it is at times almost impossible to determine whether you are on the main ridge or a spur from it. A route for a railroad on this ridge would be impracticable; for if it were possible to attain the elevation without the aid of inclined planes, it would be found useless to attempt to follow its sinuosities by a proper system of curvatures.

The country between Big river and the Maramec, I am satisfied, is of the same character, and the same objections must exist there to a ridge route.

A survey for a railroad was made by direction of the State of Missouri, in the year 1840, from St. Louis to the Iron mountain, by Wm. H. Morell, esq., the engineer of the State. His route crossed the Maramec about 26 miles from St. Louis, and much above its confluence with Big river. The route was exceedingly circuitous, (made more so than necessary, I believe, by the restrictions of the legislature,) the distance exceeding 110 miles. Grades on this route from sixty to seventy feet per mile, of considerable extent, were found necessary, and these maintained at the expense of very deep excavations and embankments; occasional tunnels were also found indispensable.

After carefully considering all these circumstances, it appeared to me that any attempt to discover a route for a railroad through this section of country, other than that afforded by the valleys of the water-courses, would be a fruitless one, and the route following the right or west bank of the Mississippi to the valley of Platten creek, thence up that creek to its source, and thence, availing of the gradual ascents and descents afforded by the valleys of the small tributaries of Big river and St. François, to the valley of the latter stream, appeared to afford the greatest facilities for construction and the maintenance of easy grades, and certainly presented the most direct route as far as the neighborhood of the Iron mountain, on the course proposed for the road.

I accordingly commenced the survey of this route on the 6th of November, 1849, at the southeast corner of the coping of the wall which encloses the United States arsenal near St. Louis, and continued on it till the 26th of

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February, 1840, terminating in the valley of the St. François, at a point on the right bank of the stream, seventy-three miles and three hundred and sixty feet from the point of commencement, having made also numerous experimental offsets from the main route.

I would further state, that in making a selection of this route for the then contemplated survey, I was influenced by a desire to pass, if possible, on the east of the Iron mountain, and thereby avoid crossing the additional summits which would necessarily be encountered on any route passing to the west of it. These summits, too, would, it was supposed, be found of much greater altitude, the farther the route should be inclined to the west; and where the chain of Ozark mountains, and the range of hills thence towards the Iron mountain, traverse the country, they would be found to present obstacles which would be very difficult to surmount.

The valleys of either the St. François, Big Black, or Current river, must necessarily be availed of, for a road in connexion with the route via the Mississippi and Platten creek. They all flow in a direction favorable for the contemplated road. The two latter, uniting in Arkansas near the northern boundary of the State, take a course thence to the junction with White river, nearly direct towards Little Rock.

To arrive at the source of either of these two last-mentioned rivers, however, a considerable detour must be made, after gaining the valley of the St. François, which would not only increase the distance very materially, but would make it necessary to cross in one case one, and in the other two additional summits.

The valley of the St. François appeared to present the most direct route; for though very serpentine in its course, it does not appear to differ, in this respect, from the valleys of Big Black or Current river. It is purposed, therefore, to continue the route down the valley of the St. François, until a favorable opportunity is afforded to cross to Big Black or White river, and thence by the most feasible route to the Arkansas above Little Rock.

It was supposed, at the time I made the selection of this route for the survey, that no ridges or very elevated land would necessarily have to be crossed, in passing from the St. François to Big Black or White river; and I have been subsequently informed by several individuals who were well acquainted with that section of the country, that the land is low, and no obstacle whatever will present itself to the passage of the road.

A branch road to the Iron mountain might diverge from this route, where it enters the valley of the St. François, and ascend, by the valley of one of its head branches, to the base of the mountain. The length of this branch road would be about fifteen miles, and the total distance from the mountain to St. Louis would not exceed seventy-six miles.

The developments made by this survey may be considered of great importance, in this point of view; as I believe no route from St. Louis to the valuable and inexhaustible masses of iron ore, and other minerals, in this section, has ever been contemplated, which would not exceed one hundred miles in length.

The elevation of the water at the great freshet of the Mississippi of June, 1844, was ascertained from a mark made at the arsenal. This level has been assumed as the base line, and the surveys have been made with the view of locating the road and establishing the grade beyond the reach of similar freshets.

The average fall of the Mississippi, from St. Louis to the mouth of Platten

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creek, will not vary much from six inches per mile: and this inclination may, I think, be safely assumed, in establishing the grade of the road, with reference to the effect of freshets. Observations were taken with the level at different points between the arsenal and the mouth of Platten creek, to marks made at the extreme height of the freshet of 1844, by which I was enabled to determine the fall.

The stage of water in the river changed so often whilst the survey was being made along its banks, as to render it impracticable to arrive at any *certain* estimate of the fall at low water.

Though this survey may be considered as entirely experimental, an effort has been made to approach sufficiently near a location to enable me to furnish an approximate estimate of the distances, gradients, curvatures, and probable cost of construction.

In tracing the line upon the ground, it was deemed expedient to have some uniform length for the stations, so that the radius of curvature might always be known, and greater facilities might be afforded (in the event of its being found necessary) for making calculations of excavation, embankment, &c. A distance of three hundred feet was found most convenient to answer these purposes without retarding the progress of the survey, and the line has been traced on the route in stations of this length.

In conducting this survey, I assumed a radius of curvature of 1,800 feet as unobjectionable, and that of 1,200 feet as admissible. The former would correspond to a deflection of about ten degrees by chords of 300 feet, the latter to about sixteen degrees; and few instances have occurred where the latter has been found necessary. The radius of curvature may be increased or reduced, according to the fancy of the engineer who may locate the road, or the sacrifice of expense he may consider necessary to make for enlarging it.

The southeast corner of the wall enclosing the grounds of the United States arsenal being the point from which the survey commenced, it would be proper to state, that no serious obstacle appeared which would make it difficult to construct the road thence to the more improved parts of the city of St. Louis. It would be found expedient, however, to pass through the enclosures of the arsenal, between the buildings and the river, for which there is ample space. The river wall of the arsenal is built near the very margin of the water, and would, in case the road should pass between it and the river, make the cost of construction around it very great.

Section 1st extends to station No. 133, near Jefferson barracks. For the distance of about one mile below the arsenal, the route passes over a narrow bottom or berme of land, between the slope of the hill and the immediate bank of the river, nearly on a level with the height of the base line, where the cost of grading would be very inconsiderable. Thence, for nearly two miles, to station 50, high, bold and rocky bluffs approach near the margin of the river. The cliffs of rock are near the summit of these bluffs, and from the base of the cliffs the ground slopes abruptly to the bank washed by the river. On this portion, side-cutting for nearly the whole extent would be necessary, and rock would be encountered. The road might be so located, however, as to require but little more excavation than would be necessary to level the transverse section of its bed.

At station 50, the first range of bluffs terminates, and the route passes over a bottom land, (on which the town of Vide Poche, or Carondelet, is situated,) ranging from six to ten feet below the level of grade for a dis-

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tance of about one mile, or to station 68. Between stations 70 and 73, there would be a thorough cut through a rocky hill, the maximum depth of which would be about 12 feet; and from thence to station 133, near Jefferson barracks, the route passes over bottom lands, and crosses the river Des Peres about 250 feet from its mouth. The grade of the road would be almost coincident with the surface of the ground from station 73 to the river Des Peres, near station 86. From thence, for about a mile, the embankment would range from four to eight feet in height; and thence, to station 133, the grade would again be nearly coincident with the surface. After leaving the first range of bluffs on this section, the hills do not approach in boldness to the river, and for some extent there are spacious bottoms between the base of the hills and the river bank.

No difficulties whatever are met with on this section of the road, and no part of the construction would be expensive. The river Des Peres would be crossed by a bridge of about one hundred feet in length, and two small bridges, of 10 and 15 feet span, would be required for smaller runs.

Section 2d extends from Jefferson barracks to the valley of the Maramec river, station 264. The road would occupy a position along the bank of the Mississippi, near the foot of the slopes from the bluffs, and for the greater part of this distance the grading can be effected by side-cutting, merely sufficient to level the transverse section of the road where the excavations would consist of loam and loose rock: occasional slope walls would be required on the lower side of the road; and side-cutting in solid rock may be found necessary, between stations 144 and 150. From stations 150 to 160, from 237 to 244, and from 264 to the Maramec river, where the line passes over bottom land, slight embankments would be required.

The course curves gradually from S. 5 W. to S. 57 W., and the curves are very gentle, the radius seldom less than 1,800 feet. Martin's and Big Cave creeks are crossed near their mouths, requiring bridges of 75 and 25 feet span, respectively. One other bridge of 50 feet span, and seven smaller ones, ranging from 10 to 25 feet span, would be necessary on this section. These structures, together with culverts, would augment the cost for grading, in the aggregate, considerably, as the foundations for the most of the bridges must necessarily be commenced below the bottom of the river.

The bluffs along the river on this section are high, bold and rocky, with long ranges of mural cliffs near their summits. The slopes from the base of the cliffs are abrupt, but a narrow bench near the immediate bank of the river, on which the slope is inconsiderable, will afford a good site for a road, for a great portion of the distance.

Section 3d, across the valley of Maramec, extends to station 289.

The most serious difficulty that will be encountered on the route along the bank of the Mississippi, will be the crossing of the Maramec. This stream will be crossed near its mouth, where the distance below the banks is about 500 feet. It would not only be necessary to bridge the stream confined within these banks, but sufficient vent must be given, also, to the immense body of water brought down by freshets, which occur frequently and inundate the bottom lands of the valley. The road would be elevated above the surface of the bottom lands, for the whole extent of this section, on embankments ranging between 7 and 15 feet in height; material, clay, loam and sand.

The valley of the Maramec is spacious, the distance from bluff to bluff

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being about a mile and a half at each point, where the surveys have crossed it.

Section 4th extends to Grand Glaize creek, at station 361.

For nearly the whole extent of this section there is a strip of bottom land, lying between the base of the slope from the bluff, and the bank of the river. The hills recede in places to a considerable distance from the stream, leaving elevated flats, of one to three hundred yards in width; near the base of the hills, however, it will be found necessary to locate the road, in order to protect it from freshets.

Between stations 313 and 316 there would be a thorough cut, and the excavation would be made principally through rock; at two or three other points there would be rock-cutting, though of inconsiderable extent. The grading on the remaining parts of the section would be very light.

Big Gut and Little Rock creeks would require bridges of 50 and 80 feet span; another bridge of 50, and four of 10 to 20 feet span each, would be necessary for other small streams which cross the line of the road.

Section 5th extends to the valley of Platten creek, at station 483.

The peculiar formation of the bluffs along the first 25 stations of this section, will make the construction of the road-bed expensive. The rocks at intervals, protrude boldly from the base of the bluffs, to the brink of the river, and terminate in high perpendicular or overhanging cliffs, forming a succession of points and inlets, over the uneven surface of which the road must necessarily pass, and the grading be effected by alternate cutting and walling. Near stations 77 and 81 there must necessarily be thorough cuts made through points of rock, to preserve a proper curvature; but in neither instance would the maximum depth of cutting exceed 30 feet.

From station 376, the cliffs of rock gradually recede from the brink of the stream, as you descend the river; and as they retire, their positions become more elevated, until they form a line of massive cliffs near the very summit of the hills, which are, at intervals, broken by the valleys of the small streams which drain the adjacent country. Those extending for a mile above the town of Herculaneum have a jagged and uneven front, and appear like a range of antiquated towers and buttresses; whilst those below present an unbroken range of mural precipices, from 30 to 60 feet in height, from the foot of which, to the bank of the river, the slopes are covered with detached pieces of rock.

A very good location was found for the route near the foot of the slopes from the cliffs, and for a great part of the way a sufficient bench of nearly level ground exists, which at intervals is enlarged to a narrow strip of bottom land.

The most extensive of these bottom lands is the one on which the town of Herculaneum is situated, near the mouth of Joachim creek, and would be crossed by an embankment. Joachim creek would be crossed by a viaduct of 250 feet in length, and Grand Glaize by one of 70 feet. There would also be required for crossing other streams, one bridge of 50, two of 40, one of 20, and two of 15 feet span, and seventeen culverts of 5 to 10 feet vent. No curvature of an objectionable radius will be necessary. The total descent in the grade of the road, from the arsenal to Platten creek is 13.5 feet.

Section 6th extends to station 568, in the valley of Platten creek.

The valley on this section is extensive, and the creek flows through it in a very serpentine course. It is bounded on the right, or southeast, by high,

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bold bluffs, which rise with abrupt slopes; whilst on the left, or northwest, the more elevated hills are remote; and between their bases and the bottom lands the surface is made undulating by a succession of spurs and elevated plains, intersected by numerous tributaries of the creek.

The route surveyed diverges from the valley of the Mississippi at the termination of the bluffs, on the north side of the valley of Platten, and, taking a course about S. 21′ W., to avoid the great horse-shoe bend of the creek, leaves the creek and extensive bottom lands, to the left. Passing round this bend, it takes a course S. 20′ E., leaves again the creek and principal bottom lands to the left, and crosses over the spurs and elevated plains, for a distance of two miles, when, deflecting to the west, it pursues the course of the valley to the end of the section.

The freshets of this creek are frequent, and sometimes inundate the bottom lands to a great extent. To guard against these inundations, and the backwater also of the Mississippi, it will be necessary to elevate the road considerably where it traverses the low grounds of the valley. The embankments would consequently preponderate; but as neither the embankments nor cuttings would be very heavy, the cost of grading would not be great. The excess of material required for embankments can be taken from the hills contiguous, or by enlarging the cut.

Three bridges of 30 to 35 feet span each, one of 15 feet span, and six culverts of 3 to 8 feet vent, would be necessary for the water-courses crossed by the route.

The soil is principally clay-loam: some rock would be encountered in the cut between stations 546 and 550:

The route passes over very little cultivated or cleared land: and the country is covered with a thick growth of fine timber, consisting of hickory, elm, and varieties of oak.

The ascent on this section would be 8.5 feet. The grade may be made uniform at the rate of 1.78 per mile, or slightly undulating, to diminish expense in grading.

Section 7th extends to station 740; the road for the entire length of this section would occupy a position on the flat land of the valley of the Platten creek, except at points near stations 583 and 590, when it will be necessary to make cuts through projecting spurs of hills. The valley is spacious, the bottom lands are of a uniformly even surface, and generally elevated above the extreme height of freshets. It becomes more contracted, however, as you approach its head, and the hills rise to a much greater elevation on each side, with bold rocky slopes, terminating in places, at the margin of the creek, in perpendicular cliffs of twenty to eighty feet in height. The grades of the road will conform with the ascent in the valley; and the excavations and embankments will be extremely light, the cutting and filling seldom exceeding five feet in depth. The excavations would consist of loam, clay-loam and compact gravel.

The creek meanders through the valley in a very serpentine course, impinging against the hills on each side alternately, making it necessary to cross it six times, and in two or three instances to divert its course, on this section. There would be required, for crossing the creek and other water-courses, one bridge of 180, three of 150, two of 100, one of 60, two of 30, and one of 15 feet span, and several small culverts.

A considerable portion of the flat lands in the valley are cultivated, and the soil remarkably fertile.

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The total ascent on this section would be one hundred and sixty feet, overcome by gradients as follows:

| | | | |
|---|---|---|---|
| 9,000 | feet at | 5.86 | feet per mile. |
| 9,000 | do. | 11.73 | do. |
| 12,000 | do. | 12.10 | do. |
| 15,000 | do. | 21.12 | do. |
| 6,600 | do. | 34.00 | do. |

making the elevation attained by the grade, 155 feet above the base line.

Near station 740 the east and west branches of the creek unite, and it was thought necessary to extend the survey, with instruments, up the valley of each of them. The line was consequently extended up the west branch to the summit, from whence I made an examination, without instruments, to the valley of Terre Blanc creek, these examinations having satisfied me that the descent to this valley could be made without encountering any difficulties, other than the great inclination which must be common to any route. I terminated the survey at the summit, and resumed the line again, which deflects at station 740, and extends up the east branch.

The valley of the west branch affords great facilities for the construction of the road at a very moderate expense, until you approach within half a mile of the summit, where deep excavations would be necessary, to reduce the grade within 100 feet per mile; to effect which, a cut averaging 45 feet in depth, for 1,000 feet, must be made.

The total ascent to the summit, at the head of this branch, is 670 feet. This ascent will be overcome by gradients to the elevation of 435 feet, and 235 feet of it will be cut off by a tunnel of 2,200 feet in length, through the summit. The excavations on the approach to the tunnel would consist, in a great measure, of rock, and it is probable that the rock extends, without interruption, from one face to the other of the ridge.

The rock is limestone, with flint intermixed. The lead-bearing rock is found in places along the valley, and great quantities of iron ore, in boulders and broken fragments, were seen in the bed of the creek, and scattered about the surface of the ground. It is supposed by the most intelligent inhabitants of this section, that the ridge through which the tunnel is proposed to be made abounds in galena and other valuable ore. The excavations necessary for the construction of a railroad through this region, therefore, may make important developments.

The ascent on this section, extending from station 740 to station 816, at the entrance of the proposed tunnel, will be 280 feet, and will be overcome by the following gradients:

| | | | |
|---|---|---|---|
| 9,000 | feet at | 39.6 | feet per mile. |
| 7,800 | do. | 69.48 | do. |
| 6,000 | do. | 96.80 | do. |

making the elevation attained, 435 feet.

The channel of the creek, which flows over a bed of rock for nearly the whole extent of this section, must be crossed frequently, and its course often diverted, to give place for the road-bed. The bridges, however, would be short, and their construction not at all expensive. The excavations, loam and compact gravel, with a small portion of rock.

After ascending the valley of the east branch, for half a mile above its junction with the west branch, it takes a direction about S. 75 E., and, within a mile, doubles round to the southwest again. On examination of

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the valley thence to its source, it was found exceedingly crooked, with very acute turns, and hemmed in at these points by high bluffs of rock, making it impossible to curve round them with a proper radius. The survey was, consequently, continued up the valley of a middle fork, which has its source in a depression of a narrow ridge which intervenes between it and the east branch, where the latter doubles round to the southwest; from whence, crossing this ridge at an elevation of 385 feet, it continues ascending along the slopes of the hills bordering the valley of the east branch, to an elevation of 490 feet, at the summit between the waters of Platten and Terre Blanc creeks.

The surveys being continuous on this route, from station 740, the sections will be numbered in connexion from that point.

Section 8th extends to station 785, the summit of dividing ridge at head of middle fork. The gradients on this section are more objectionable than at any point on the routes surveyed, and can only be reduced to about 130 feet per mile, for one mile in extent near the summit, by a cut of 45 feet in depth. To avoid curvature, there would be a cut of about 400 feet in length, through the narrow rocky point intervening between the two branches of the creek, the extreme depth of which would be about 60 feet. Two or three high and extensive embankments would also be necessary.

The ascent on this section would be 230 feet; gradients, 8,400 feet at 66 feet per mile; 5,100 feet at 129.43 feet per mile.

The cutting-through point, at station 743, would consist entirely of rock; and a considerable quantity of rock would be met with in the other excavations.

Section 9th extends to station 832, at the summit between Platten and Terre Blanc creeks. There is a succession of deep cuts and high embankments on this section, from one extreme to the other; passing through the spurs of the hills which border the left bank of the east branch of Platten creek, and over the valleys of its tributaries. The grading and bridging would consequently be very expensive. The ascent would continue from the commencement of the section to the summit, at the head of Platten, where the elevation attained by gradients would be 490 feet above base line.

The ascent in this section is 105 feet; overcome by the following gradients:

| | | |
|---|---|---|
| 3,300 feet at | ---------- | 72.00 feet per mile. |
| 3,000 feet at | ---------- | 8.8 feet per mile. |
| 7,800 feet at | ---------- | 37.23 feet per mile. |

Much rock would be encountered in the excavations; some of which would be very extensive. The rock is generally a mixture of lime and flint. Iron ore, of the same character as that found in the valley of the west branch, abounds in the valley of this branch of the creek, also; and beautiful specimens of crystalized quartz, encrusted with iron ore, were picked up on the hill-sides and bottoms.

Near station 800, the ore was found in place, where large masses exist, combined with flint. It is supposed that the ridge or spur is here composed entirely of ore.

Section 10th extends to station 905, at Terre Blanc creek. The course, in this section, is S. 20 W., and perfectly straight. The route passes over an undulating surface; crossing, in an oblique direction, the valleys of numerous

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small tributaries of Terre Blanc; none of which were found to afford facilities for the route of the road. The waters which head near the summit, where the survey crosses it, flow thence in a southeasterly direction, and, by a circuitous route, find their way to the main branch of Terre Blanc, recrossing the line again in their course; whilst those which are crossed by the line, about two miles distant from the summit, flow nearly west; and, as the valley of the creek is approached, others cross again in a southeast direction.

The general face of the country, in this section, has a gradual inclination from the summit towards the creek; and belts of prairie land are traversed by the line, from which, to the valley of the creek, the descent is more rapid.

There would be a succession of deep cuts and high embankments on this section, also; and the excavations would be expensive, in consequence of the quantity of rock which would be encountered.

The descent on the section would be 165 feet. The gradients 12,000 feet, at 26.83 feet per mile; 7,500 feet, at 73.21 feet per mile.

Section 11th extends to station 1007, at the summit level, between Three Rivers creek and Wolf creek.

The route on this section lies along the valley of Three Rivers creek, a tributary of Terre Blanc creek. The two streams unite about one-fourth of a mile to the west of the line from station 912, on the farm of Richard Paston, esq.

The general course from the mouth of this creek to the source, at the summit, where the line crosses it, is nearly southeast; and, although the direction is not at all favorable for the route, it was found necessary to avail of the ascent by its valley, as the only practicable means of crossing the ridge between the waters of Terre Blanc creek and the St. François river.

A thorough examination was made of the ridge at the head branches of Three Rivers creek, with a view (if possible) of finding a more direct route, by the valley of some one of the small tributaries which head west of the point crossed; but it was found that more elevated ground would be encountered. The ascent would be much more abrupt to the summit; and, after the summit had been passed, there would be encountered a succession of high spurs of land, which traverse the country in an east and west course, between which flow, in a parallel direction, the waters of Flat river, a tributary of Big river.

The route passes over a depression in the ridge, on the east side of a high rocky knob of land, near the base of which the State road from St. Louis to the town of Farmington crosses.

The valley of Three Rivers creek is remarkably straight, and affords great facilities for constructing a railroad. The slopes of the hills are gentle, and the bottom lands are not subject to be overflowed by freshets. The grading for the whole extent of the section would be light, though the excavations would contain considerable portions of rock.

The creek would be crossed repeatedly, and several tributaries would also require bridging. The bridges, however, would neither be high nor expensive.

The ascent in this section would be 225 feet; the gradients—

| | | |
|---|---|---|
| 11,400 feet at | 23.15 | feet per mile. |
| 6,000 do. | 44.00 | do. |
| 8,700 do. | 74.70 | do. |

attaining an elevation of 550 feet above base line.

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Section 12th extends to station 1070. It embraces the cut through the summit at the head of Three Rivers creek, and the country traversed by the route between this summit and the head of De Luzier's branch, a small tributary of the St. François.

The descent to the valley of the St. François might be made by the valley of Wolf creek, but the route would be more circuitous, and the length considerably increased. It is possible, however, that it might be found less expensive than the one surveyed.

In crossing the country between the summits at the head of Three Rivers and De Luzier's branch, numerous branches of Wolf creek would be crossed near their sources, all flowing in a southeast direction, and the main branch of it would be crossed near station 1055. The surface would consequently be undulating, and a succession of deep cuts and fills would be necessary. The expense of grading and bridging, therefore, would be great, though not unusual in the construction of railroads.

The extreme depth of cutting on the summit at the head of Three Rivers creek would be about 40 feet, and the average depth for half a mile would be about 27 feet. The depth of cutting at other points would vary from 10 to 20 feet, and very little rock would be encountered, none appearing on the surface, except in the bottoms of the valleys.

There would be a descent on this section of 58.66 feet per mile for 3,600 feet, and an ascent of 13.53 feet per mile for 11,700 feet. The elevation attained by grade at the head of De Luzier's branch is 540 feet.

Section 13th extends to 1131, on St. François river.

The line takes a course from the summit down the valley of a tributary of De Luzier's branch, nearly south for a mile, when, deflecting to the left, leaving the immediate vicinity of the branch, it runs S. 20 W. till it reaches the St. François river.

The land from the summit has a very gentle declivity into the valley of the St. François; and after following the valley of De Luzier's branch for about a mile, there is no longer a necessity for pursuing it for a location of the road. The surface passed over between these two streams is very gently undulating, inclining towards the river, and no difficulty whatever presents itself to the construction of a railroad. There would be a succession of light cutting and filling, and it is believed little or no rock would be met with, the rock appearing only in the bottoms, near the small streams crossed by the line, all of which flow into De Luzier's branch.

The descent in this section is 115 feet; the gradients—

| | | |
|---|---|---|
| 6,000 feet at | 52.8 | feet per mile. |
| 8,400 do. | 12.57 | do. |
| 3,900 do. | 47.40 | do. |

making the elevation of grade in the valley of St. François, at this point 425 feet above the base line.

From the termination of section 13, the route surveyed, for a distance of two and three-quarter miles, extends in a southeast direction on the bottom lands of St. François river, which are very spacious, and on which the road can be graded at very little expense. The river must necessarily be crossed, however, as the right bank affords much greater facilities for construction; the slopes of the hills on this side, being very gentle, whilst those on the other are abrupt, high and rocky.

The river, after pursuing a southeast course for the above-mentioned distance, to station 1170, becomes extremely serpentine, the general direc-

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tion, for about two and a half miles, being south; and then southwest for two more, to the termination of the line at station 1286. The meanderings of the river were surveyed from station 1182 to 1286, making an excess of distance by these meanderings of about two miles. The river, in its excessively tortuous course, is met and hemmed in on the left, in many places, by very high and steep hills, the slopes of which terminate at the brink of the stream, in precipitous masses of granite rock.

On the right bank the slopes, as I have before mentioned, are more gentle, and the spurs which protrude into the bends can be crossed at moderate expense, by assuming an elevation of about fort-five feet for the grade of the road.

Granite rock appears on this bank, at station 1186, when the lime-rock terminates; after which, granite and sandstone, of very superior qualities for building, occur alternately, as far as the line has been extended. Sandstone cliffs occur in several places along the margin of the river, on the right bank, varying from ten to thirty-five feet in height. On the left bank there appeared to be a continuous range of granite, from the point at which it first appeared to the termination of the line.

The following are tables of distances and gradients:

Table first exhibits the distances and gradients to the head of the west branch of Platten creek, from whence it was thought inexpedient to make surveys with instruments, to the junction of Terre Blanc and Three Rivers creeks; as an examination of the ground and country intermediate, between the head-waters of the west branch of Platten and the junction of Terre Blanc and Three Rivers, satisfied me that no difficulties would be encountered, though it may be found necessary to make the ascent to the ridge at the head of Platten by the valley of one of the more eastern forks of the west branch of that stream.

Table second exhibits the distances and gradients, via the middle fork of Platten, to the St. François river; from whence they will be continued in connexion with the surveys in contemplation, and about to be commenced.

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TABLE I.

*Distances and gradients from high-water mark at United States arsenal, St. Louis, to summit at head of west branch of Platten creek.*

| Distances, in miles and feet. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent. | Descent. | Total ascent. | Total distance, in miles and feet. |
|---|---|---|---|---|---|---|
| 27 2640 | ..... | 0.5 | ..... | 13.50 | ..... | 27 2640 |
| 4 4080 | 1.74 | ..... | 8.50 | ..... | ..... | 32 1440 |
| 1 3720 | 5.86 | ..... | 10.00 | ..... | 5.00 | 33 5160 |
| 1 3720 | 11.73 | ..... | 20.00 | ..... | 25.00 | 35 3600 |
| 2 1440 | 12.10 | ..... | 27.50 | ..... | 52.50 | 37 5040 |
| 2 4440 | 21.12 | ..... | 60.00 | ..... | 112.50 | 40 4200 |
| 1 1320 | 34.00 | ..... | 42.50 | ..... | 155.00 | 42 240 |
| 1 3720 | 39.60 | ..... | 67.50 | ..... | 222.50 | 43 3960 |
| 1 2520 | 69.38 | ..... | 102.5 | ..... | 325.00 | 45 1200 |
| 1 720 | 96.80 | ..... | 110.00 | ..... | 485.00 | 46 1920 |

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TABLE II.

*Distances and gradients from high-water mark at United States arsenal, St. Louis, via summit on middle of Platten creek, to St. François river.*

| Distances, in miles and feet. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent. | Descent. | Total ascent. | Total distance, in miles and feet. |
|---|---|---|---|---|---|---|
| 27 2640 | ..... | 0.5 | ..... | 13.50 | ..... | 27 2640 |
| 4 4080 | 1.74 | ..... | 8.50 | ..... | ..... | 32 1440 |
| 1 3720 | 5.86 | ..... | 10.00 | ..... | 5.00 | 33 5160 |
| 1 3720 | 11.73 | ..... | 20.00 | ..... | 25.00 | 35 3600 |
| 1 1440 | 12.10 | ..... | 27.50 | ..... | 52.50 | 37 5040 |
| 2 4440 | 21.12 | ..... | 60.00 | ..... | 112.50 | 40 4200 |
| 1 1320 | 34.00 | ..... | 42.50 | ..... | 155.00 | 42 240 |
| 1 3120 | 66.00 | ..... | 105.00 | ..... | 260.00 | 43 3360 |
| 0 5100 | 129.43 | ..... | 125.00 | ..... | 385.00 | 44 3180 |
| 0 3300 | 72.00 | ..... | 45.00 | ..... | 430.00 | 45 1200 |
| 0 3000 | 8.80 | ..... | 5.00 | ..... | 435.00 | 45 4200 |
| 1 2529 | 37.23 | ..... | 55.00 | ..... | 490.00 | 47 1440 |
| 2 1440 | ..... | 26.83 | ..... | 61.00 | 429.00 | 49 2880 |
| 0 2400 | ..... | ..... | ..... | ..... | 429.00 | 50 0000 |
| 1 2220 | ..... | 73.21 | ..... | 104.00 | 325.00 | 51 2220 |
| 0 4500 | ..... | ..... | ..... | ..... | 325.00 | 52 1440 |
| 2 840 | 28.15 | ..... | 50.00 | ..... | 375.00 | 54 2280 |
| 1 720 | 44.00 | ..... | 50.00 | ..... | 425.00 | 55 3000 |
| 1 3420 | 74.70 | ..... | 125.00 | ..... | 550.00 | 57 1110 |
| 0 3000 | ..... | ..... | ..... | ..... | 550.00 | 57 4140 |
| 0 3600 | ..... | 58.66 | ..... | 40.00 | 510.00 | 58 2430 |
| 2 1140 | 18.53 | ..... | 30.00 | ..... | 540.00 | 60 3600 |
| 0 600 | ..... | ..... | ..... | ..... | 540.00 | 60 4200 |
| 1 720 | ..... | 52.80 | ..... | 60.00 | 480.00 | 61 4920 |
| 1 3120 | ..... | 12.57 | ..... | 20.00 | 460.00 | 63 2760 |
| 0 3900 | ..... | 47.40 | ..... | 35.00 | 425.00 | 64 1380 |

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The bottom lands along the Mississippi and the valleys of the various streams over which this route extends, are covered with fine timber, consisting of varieties of oak, hickory, walnut, ash, sycamore, &c. But a small portion of the land has been cleared for cultivation, though the soil is exceedingly fertile, particularly on the flat lands of the valleys.

Notes have been taken, by which I shall be enabled at some future time (if thought necessary) to furnish an approximate estimate of the quantity of excavation, embankment, and masonry, necessary for grading the road on the route surveyed, which the necessity for resuming field operations prevents me from furnishing with this report. You will perceive, however, by reference to the profile of the route, herewith submitted, that the work is generally light, and that wherever the ascent by gradients is great, the lengths of these gradients are inconsiderable.

By a skilful and judicious location, the work in many places may be made lighter, and the gradients less. The crossing of the Maramec, and the tunnel through the ridge at the head of Platten creek, will be expensive; much, however, will depend upon the character of the structure over the former; and it is presumed that the cost of constructing a viaduct of the most substantial character, together with the embankments necessary on section third, would not amount to more than seventy-five thousand dollars.

The tunnel will not exceed two thousand four hundred feet in length, which, at an estimate of twenty dollars per foot, will amount to forty-eight thousand dollars.

No other difficulties of an unusual nature occur on the whole route surveyed, and the road, thus far, can be graded at an expense much below the average cost of grading on railroads already constructed in this country.

There will be a very small portion of the road straight; but the curves are not of radii to make them very objectionable; it being found necessary, but in very few instances, to make the radius less than eighteen hundred feet, and never less than one thousand.

Observations were taken to the polar star, at the commencement and termination of the survey, by which the variation at the former was found to be 7° 30′, and at the latter 7° 36′ 45″.

Profiles of the route have been made, on a scale of eight inches to the mile, horizontally, and one hundred feet to the inch, vertically, by Mr. Erastus Hurd, who assisted me in the survey, as leveller to the party.

The routes have been plotted on a corresponding scale by myself; but for want of time, I have not been able to sketch the topography on the map, further than the head of Platten creek. It is hoped, however, that the foregoing description will enable you to form a correct idea of the country traversed, and of the facilities it affords for the construction of a railroad.

The profiles and the line plotted, with the topography in its unfinished state, will be forwarded to you by Adams's express.

It would be proper to state, that the survey along the margin of the Mississippi river, between stations 198 and 262, and also at other points, (as will be seen by reference to the map and profile,) was run below the bank, and not on the ground that would be probably occupied by the road. Between stations 198 and 262, the line was run below the bank, to avoid the thick brush which retarded the progress of the survey. The route

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would occupy a position parallel to this line, elevated so as to suit the grade, and no difficulties whatever would be encountered in the grading.

At other points, the difficulty of ascending and descending the cliffs made it expedient so to direct the line, to facilitate the progress of the survey.

Respectfully submitted:

JOSHUA BARNEY,
*United States Agent.*

Col. J. J. ABERT,
*Chief Topographical Engineers, Washington, D. C.*

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BALTIMORE, *November* 1, 1851.

COLONEL: Having, agreeably to your instructions, re-organized a party for the purpose of continuing the survey of a route for a road from St. Louis, Missouri, to the Big Bend of Red river, at Fulton, in Arkansas, "the object being to determine also the elements of a railroad on the route indicated," I resumed field operations on the 17th June, 1850, in the valley of the St. François river, at the point where the surveys of the previous winter had terminated, and continued in the field until the last of December, when the survey to Fulton, on Red river, was completed.

In my report of May 25, 1850, my reasons for selecting the valley of the St. François river for the route through this section of country, have been explained; and although obstacles of the most formidable nature presented themselves continually for the whole extent of the valley traversed, I am still impressed with the belief that no route in that direction would be less difficult; and the only alternative would be to pursue the bank of the Mississippi to a point below Cape Girardeau, thence cross on the flat lands to the St. François, and crossing that river, to intersect, below the termination of the high land, the route surveyed, from which the routes would be identical to Fulton.

The valley of Big Black river might be availed of by deflecting from this route, (as I have stated in my report of May 25,) so as to pass to the west of the Iron mountain. But the course of Black river appears to be quite as tortuous as that of the St. François, and, flowing as it does, in a direction almost parallel to it, through an excessively hilly or mountainous region, —the distance between the two rivers, too, seldom exceeding fifteen miles— a fair inference might be drawn that the route would not be thus improved.

It would be found impracticable, also, to construct a railroad through this section of country without availing of the valleys of one or the other of these rivers for its general direction, in consequence of the very numerous and deep indentations made by their tributaries and those of Currant river, all of which flow in directions transverse to the route indicated.

The general aspect of the country is bold and rocky, very much broken by high hills of steep declivity, and narrow, serpentine valleys; so that after having once entered the valley of the St. François, I saw no inducement to retrace my steps, with a view of finding another route more practicable.

My report of May 25 comprises a description of the route surveyed and the country traversed, as far as station 1131, the end of section 13th, when the line first struck the St. François river, a point three miles south of Farmington, St. François county, Missouri. Here the valley is very spacious,



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and hills of gentle declivity border it on each side; but the river, after flowing in a direction nearly south for three miles, impinges against a high bluff hill of granite rock, and the character of the valley becomes completely changed; the river becomes excessively crooked, and bold; rocky bluffs appear, alternating on each side.

In the survey of February, 1850, I took the meanderings of the stream, being unable, on account of the extreme coldness of the weather, the ice in the river, and great depth of snow, either to cross the river or make the necessary examinations of the land; but on renewing the surveys last June, I commenced at station 1164, and after having run two or three experimental lines, succeeded in finding a route across a bend, which cut off about three miles of the meanderings of the river.

Efforts were made to continue the same system that was adopted on my survey of the previous winter, with regard to tracing an approximate location by stations of regularly defined curvature; but the numerous sudden bends in the river, in places where the valley was very contracted and hemmed in with rocks, made it a work engrossing too much time for the nature of the survey: and the line was run for nearly the whole extent of the valley of the St. François, of a mere experimental nature.

Section 1st extends to station 1213. After intersecting the valley of the St. François, the survey was extended over the bottom lands on the left banks of the stream, for a distance of about two miles, when it became necessary to cross, at station 1150, to the right, in order to cut across the bend above mentioned. In effecting this, an ascent of fifty feet must be made on grades 35.2 and 19.5 feet per mile, and a descent of ninety feet on grades 70, 21, and 8 per mile.

The line passes over the spurs of the hills bordering the valley on the right, which are of gentle declivity, but composed principally of granite rock, in which one cut of considerable extent must be made. The distance across this bend is about 3¾, and about three miles less than that following the meanderings of the river. The fall in the river is forty feet. A bridge of two hundred feet span will be required to cross the St. François, and one of thirty and twenty feet span each, besides several small culverts, will be necessary for crossing the smaller streams.

Section 2d extends to station 1319. The line crosses the river the second time at station 1214, and continues down the left bank to station 1319, a distance of six miles. In this section the river is very crooked. The valley is hemmed in in several places by high, steep hills, the slopes of which are covered with masses of granite rocks, sometimes presenting cliffs and ledges, but generally appearing in large fragments and boulders, scattered in confusion over the whole extent between the hills, and obstructing in many places the channel of the river. In these places the river falls rapidly over beds of rock, and the descent of the stream is very great. These obstructions present serious difficulties to the construction of a railroad, and must occasionally make it necessary to occupy a part of the bed of the stream to preserve a practicable radius of curvature. The bridge necessary for crossing the St. François will be of about two hundred feet span; and those for the smaller streams, one of thirty and two of twenty feet span, besides several small culverts. The descent in the stream in this section is 71.9.

Section 3d extends to station 1464. In this section—a distance of about 8½ miles—the line crossed the stream seven times, and it is probable that

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in order to preserve curves of radii practicable, it would be necessary, in locating a railroad, to make at least two more crossings. The greater portion of the bridges must necessarily cross the stream obliquely, and would vary in length from two to five hundred feet. The descent of the river is 135 feet, and the stream, when swollen, rushes with great violence through several long, narrow passes, where again the hills on each side come boldly up to the margin of the water, their slopes covered with immense masses, boulders, and detached fragments of granite rock; and the bed of the stream, too, as in some parts of the section, is filled with these boulders and fragments. This and section 2d embrace that portion of the St. François river which is characteristically termed the Narrows, which probably presents for the same extent more obstacles to the construction of a railroad, than any other portion of the route from St. Louis to Fulton.

The cuttings in this section will consist principally of rock, and the road-bed, where it is necessary to elevate it above the natural surface, must be formed of masonry. The grade assumed for the road corresponds nearly to the fall in the river. The profile exhibits in two instances, near station 1380, and from station 1451 to 1458, an excessive amount of cutting, which would be avoided, in a great degree; by a judicious location.

Besides the number of bridges necessary for crossing the river, a bridge for Turkey creek, of 60 feet span, and three bridges of 20 feet span each, would be required for crossing smaller streams.

Section 4th extends to station 1614. This section—the length of which is over 8½ miles—extends along the right bank of the river. A location would be more direct, and would pass over much more favorable ground, than the route surveyed. The road-bed would be formed principally by light embankments, sufficiently elevated to protect it from the freshets of the river. One bridge of 50, one of 30, and another of 20 feet span, would be necessary for crossing three small tributaries. The work altogether on this section would be light.

Section 5th extends to station 1764, 8½ miles. The river on this section is very serpentine. In the first two miles it flows through another narrow pass, confined on each side by high, steep hills and precipices of trap rock, which in places rise perpendicularly from the margin of the stream to an altitude of 150 feet; and cliffs of this nature appear in the concave sides of the bends in the river, to the end of the section. The river makes numerous abrupt turns, making it necessary to cross it no less than nine times in this section.

The line crosses a remarkable gap at station 1719 in an elevated ridge, which runs nearly east and west, and around which the river makes a great bend, running for about one mile due east; thence, curving towards the south, runs a considerable distance, when it again curves to the right until it runs N.W., in which course it runs at the point the line crosses it, souht of the gap. The distance around this bend would be upwards of five miles, the distance across little exceeding one mile.

In crossing these numerous bends in the river it will be necessary, in order to avoid too great an extent of cutting, to elevate the road much above the bed of the river, which will make the construction of bridges expensive on account of the additional height of their abutments: and as the stream in most instances must be crossed very obliquely, the bridges would consequently be very long.

The river, after passing this section, continues in the same tortuous

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course; and for some distance down, high precipices of trap-rock still present themselves in the concave sides of the bends of the stream, the water flowing immediately beneath them, and washing their bases. These high cliffs, alternating on each side, divert the stream, so that it pursues a zigzag course for more than twenty miles, when the distance between the two extreme points would not exceed twelve miles.

Section 6th extends to station 1914, a distance of eight and a half miles. The hills in the immediate vicinity of the St. François on this section assume a mountainous aspect, and are much more elevated than those more remote from the stream. They form high ranges on each side of the valley, broken only by the valleys of the streams which flow into the river. In some instances remarkable depressions occur, and the hills hemming in the river appear isolated mountains. One of these depressions was availed of to cross over to the valley of Big creek, (a tributary of the St. François,) which was intersected about four miles above its mouth, and the valley of the creek pursued until the valley of the St. François was reached again. This is the only instance where I found it practicable to leave the valley of the St. François, from the point where the line first intersected it until it left it at the termination of the high land at Blue Spring.

This detour of about eight miles will cut off a number of the most abrupt bends in the river, where the cost of constructing a road would be very great; and will save a distance of four or five miles, besides as many bridges.

The elevation of the summit crossed by the grade assumed would be one hundred and five feet above the grade in the valley; which elevation would be overcome by an ascent of seventy-one feet per mile for one and a half mile, and a descent of fifty-seven feet per mile for two miles; though the summit of the hill would be reduced by a cut averaging thirty feet in depth for the extent of half a mile.

In making this detour, the route leaves the valley of the St. François near the S. W. corner of section —, township 31 north, of range 5 east, on the farm of Mr. Crauns; and takes the valley of a small branch which runs in a N. E. direction for about a mile, and, following that valley in a S. W. course, crosses a very great depression over to the headwaters of Patterson's creek, the valley of which it follows to its confluence with Crane Pond creek, thence to Big creek, and thence over Big creek to the St. François again.

The St. François would be crossed once, and Big creek three times. Two bridges of three hundred, two of two hundred, one of thirty, and one of twenty feet in length, would be required, besides numerous small culverts.

The grading, with the exception of that at the summit and a small portion at the commencement of the section, would be light.

A portion of the valley of Big creek, traversed by the route, is of the same character as that of the valley of the St. François described above; the hills rising on each side, in a succession of perpendicular cliffs of trap-rock, to an elevation of six or seven hundred feet.

About a quarter of a mile from the point where the line first strikes Big creek, and nearly opposite station 1873, Mud Lick branch empties into Big creek. This branch runs almost due north, and makes a gap through the mountainous range which borders the valley of Big creek on the south, cutting it almost to its base, forming a deep chasm, with steep rocky sides. I found the ascent on the first half mile from Big creek much

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too great for a railroad, the stream in this distance being a succession of cascades and pools. This is one of the most remarkable features of this section of country. Mud Lick branch has its source on ground which probably is not more than one hundred and fifty to two hundred feet above the level of the river, and flows in a north course, cutting through a range of hills or mountains about six hundred or seven hundred feet in height, until it reaches Big creek.

Section 7th extends to station 2064, eight and a half miles. The route on this section continues down the valley of Big creek till it reaches the St. François, a distance of about one and a half mile. It then follows the right bank of the river, passing in general over the flat bottom lands of the valley, which have become more extensive. The grading will consist principally of embankment, though in some instances, where the hills approach the margin of the river, rock cutting will occur. Much of the cutting between 1973 and 1983 may be avoided by a judicious location; as also much of the curvature on the section. The embankments would necessarily be high, to avoid the freshets of the river.

Two bridges for crossing Big creek, of 150 feet in length each, and three bridges of 75 feet span each, will be required for crossing Carr's creek, and two smaller streams, besides several culverts.

Section 8th extends to station 2214, 8½ miles. The valley in this, as in section —, is more extensive, and the greater portion of the route would pass over bottom lands. A location would vary considerably from the line traced of the survey, and much of the curvature and excavation would be avoided.

The village of Greenville is situated on the left bank of the river, opposite station 2140. It is probable, if a location of a railroad should be made on this route, that the road would pass through this village, crossing the river near station 2100, and continuing down the left bank: but at this, as well as many other places on the river, it was difficult to determine which side would prove most favorable, the course of the stream continuing very serpentine, and bluff, rocky hills appearing alternately on each side. The country is covered with a dense growth of large timber, with little intermission from one extreme of the survey to the other; so that but little could be ascertained by a reconnoissance, or by any other means than an experimental survey, in a valley so contracted and tortuous. The survey was consequenty continued along the valley, crossing the river only at such places as appeared necessary from the nature of the ground in the immediate vicinity.

Much of the deep excavation, as exhibited by the profile in this section, would be unnecessary; and the greater portion of the grading would consist of high embankments, to protect the road against the freshets of the river.

Two bridges, one of 40 and the other of 20 feet span, would be necessary for crossing small tributaries.

Section 9 extends to station 2364, 8½ miles. The valley continues of very much the same character as described in sections 7th and 8th. The route crosses over the flat bottom lands in the bends of the stream, keeping near the base of the hills, and cuts into their rocky slopes when they approach to the margin of the river. There will be an excess of embankment, also, on this section. In three or four instances, deep, rocky cutting

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cannot be avoided; though the quantity represented by the profile would be greatly reduced by a judicious location.

Three bridges of 20 feet span, and several of smaller dimensions, would be necessary for crossing streams.

Section 10th extends to station 2564, 11½ miles. In this section, the route surveyed continued down the right bank of the river, though it will be found necessary, in locating a road, to cross it at least twice. The line passes over very favorable ground in the first three and a half miles, when the river, after running nearly south for some distance, impinges against a high rocky hill, and suddenly takes a turn to the northwest, making an acute angle, where it would be impracticable to construct a railroad with a curvature that would be admissible. The route would consequently cross the river about a mile above this point, and re-cross it again about half a mile below. This acute turn in the river is called a whirlpool.

The river makes several great bends in this section; the route consequently would be very crooked; and it is questionable whether it would not be found expedient to cross and re-cross the stream again, to avoid curves of too small radii. The line from station 2691 to station 2697, a distance of but six hundred yards, crosses the neck of a bend, the distance around which, by the river, would be about three miles.

The grading on this section would be light; but besides the two bridges of two hundred and fifty feet in length for crossing the river, there would be required one of fifty, two of thirty, and five of twenty feet span, for crossing the smaller streams.

At the termination of section 10th will end the second division of the route, the first terminating at station 1164.

But very little of the land in the valley of the St. François is cultivated. What has been, appears in patches of from ten to fifty acres, interspersed along the route at intervals varying from half a mile to six or eight miles. The soil is generally very fertile; but little wheat, or grain of any kind, except corn, is raised in the country. The attention of the farmer appears to be turned principally to raising stock, such as cattle, horses, hogs, and mules. I saw but few sheep on the route; and the country is also very thinly settled, remote from the river.

The rock which has been mentioned in the description of the various sections of the second division, and which is found in abundance throughout the whole extent of the valley, is of an excellent quality for building purposes; the sandstone and granite which are found on the 1st section, and the granite which extends thence to the end of the 2d section, are of a very superior quality, and can be split out to any size and shape that might be required.

The timber is generally of a very large size in the valley. On the 1st section there is a considerable quantity of pine intermixed with the other trees of the forest. The varieties of oak, hickory, ash, elm, &c., are found along the whole extent.

The route leaves the St. François river at the end of section 10th, near a place known as the Old Indian Ford, where the hills begin to recede from the river, at the termination of the highlands between it and Black river. This point is, by the route surveyed, 81½ miles from the point where the line first struck the river; though in a direct line, the distance would not exceed 60 miles. The descent in the stream was found to be 508 feet from the point where we first crossed it to Indian Ford.

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After leaving the valley of the St. François, we entered what is termed the Swamp District, a section of country which has been very little explored, except by those who are in the habit of hunting; and in order to avoid the very extensive cypress swamps and ponds which were represented, by those best acquainted with it, to lie in a south and southwest direction, the line was continued about S. 13 E.W. for a distance of nearly fifteen miles, which brought us over some ground a little more elevated than the general level of the swamp, and known as the Ash Hills. We thence continued S. 7 W. about three miles, crossing the Monockolet slough, which heads near the St. François, and extends in nearly a southwest direction to Black river. The bed of this slough might be availed of to a great extent in cutting a canal from the St. François to Black river, which could be done at a very little expense.

The left or southeast bank of the slough is much more elevated than the general level of the swamp, and is never overflowed by the inundations of the river, as the greater part of the surface of the country appears to be in times of freshets. After crossing the Monockolet slough, the route continues for a distance of ten miles in a southwest direction, on ground not subject to be overflowed. This course was taken in order to pass around and avoid the sloughs and ponds forming the sources of Cache river; and also for the purpose of continuing the route on the most elevated ground lying between Cache and Black rivers, to a suitable point for crossing Black river. The line crosses Big Swan lake, which was represented to be one of the sources of Cache river, at station 3037. At the time the line was run (August 31) there was no water in the lake, and the bed of it was covered with a thick growth of swamp-weeds and grass; the bottom of it a deep quagmire. On approaching Black river it was found that the direction we had taken would bring the line over the low swampy grounds in the immediate vicinity of the river; an off-set was accordingly made, and the line continued in a course S. 37 W. for about three miles; from whence the course was changed to S. 52 W., and extended a distance of nearly twenty miles to a point east of the village of Pocahontas, opposite the bend in Black river near its confluence with Currant river, and about equidistant between Black and Cache rivers.

In making the survey of the route above described, extending from the St. François river to the point east of the village of Pocahontas, a distance of nearly fifty-four miles, to station 3511, it was found necessary to make several angles or alterations of the course, for reasons above stated. But in locating a road it would most probably be found inexpedient to make more than one change of course, which would take place after crossing the Monockolet slough, where a curve of any desirable radius could be made.

From station 3511 to station 3714, the end of the 3d division of the route, the course taken by the survey was S. 32 W., with a view of keeping along the range of glade lands which were represented to extend at intervals along between Cache and Black rivers, but more in the immediate vicinity of Cache.

This division of the route, in length 65 miles, crosses the line dividing between the States of Missouri and Arkansas, about station 3080, and near the northwest township line, between ranges six and seven, east of the 5th principal meridian; thirty miles of the division being in Missouri, and thirty-five in Arkansas. Efforts were made to ascertain the exact point of

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crossing, but the marks on the trees had either been obliterated, or none had been made, about where the two lines crossed.

In the whole extent of country traversed by the route in this division, there was at the time of the survey no running water. The beds of Mud creek at station 2574, Blue Spring slough at stations 2584 and 2658, and the Monockoiet slough at station 2869, will require bridges of 30, 20, 60, and 75 feet spans, respectively; and seven small runs or drains of inconsiderable extent will require culverts. It may be found expedient, too, in crossing several of the cypress sloughs (through which, however, there did not appear any evidences of the water having at any time formed a current,) to construct the road on piles, so as to allow the water to drain off where there is an inclination from one side of the road to the other. With these exceptions, the road may be constructed by forming an embankment, averaging say not more than four feet in height for the whole length of the division.

Though the surface of the country through this district is gently undulating, in places there is a gradual inclination to the south. The total descent in the division of sixty-five miles is sixty feet, on which the gradients of the road will in no instance extend ten feet per mile. There will be three slight ascents to avoid cutting where the general surface of the ground is level, but these ascents are but short, and do not exceed five feet per mile.

The soil is generally a clay-loam, resting on a bed of blue clay, through which the water in the rainy seasons of the year does not percolate rapidly: and as there are sections, for miles in extent, where the elevations on the surface do not vary more than a few inches, the water remains on the surface and saturates the soil, so that the district becomes impassable. Hence, I imagine, it has acquired the name of the swamp district. The line of survey crosses very few morasses or grounds of a swampy nature, and these are of very inconsiderable extent, requiring nothing more than the usual method of embankment to cross them.

In locating a road with a view of making it as straight as possible, it is probable that the route might pass over the beds of some few small ponds, as they are interspersed over parts of the northern portion of this division; but the embankment in these cases would be comparatively light.

No stone, whatever, is found on the route, and that which may be required in the construction of a road must necessarily be brought from the right bank of Black river.

The timber is generally of very large size, consisting of the varieties of oak, hickory, ash, elm, sweet gum, and maple. In the sloughs and low swampy grounds, there is a mixed growth of cypress and cupola gum. The underbrush is very thick, except on the ranges of flat glade lands, where there is generally a growth of post and willow oak, and hickory of a small size.

There is very little of the land cultivated in the vicinity of the route on this division; and the line was run through a wilderness from one extreme to the other, without touching an improvement of any kind. We were obliged to cut a way through the woods for our wagons, for about ten miles after leaving the St. François river, after which we were enabled to make use of some very bad roads to transport our camp equipage, though the distance from the line of survey to these roads was very inconvenient, and retarded the field operations in a very great degree.

As the character of the route varies very little in the whole extent of this

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division, it has not been subdivided into sections. The whole of it will be therefore embraced in one section.

The fourth division of the road, 62½ miles in length, extends to station 4814; and for description in detail, will be divided into four sections.

Section 1st extends to station 4064, 20 miles. The course of the route surveyed on this section is S. 47° 30′ W. The total descent is ten feet, and the gradient in no place in it will exceed 3¾ feet per mile. The road-bed, like the whole of the 3d division or section, will be formed of embankments, which will average about four feet in height. The route crosses the beds of four small runs, in the first four miles, which empty into Cache river: the beds of these runs were perfectly dry at the time the survey was made.

At station 3862 the line struck the head of a pond, supposed to be one of the sources of Village creek, a small stream which empties into Black river a few miles below Jacksonport. At station 3956, the line crosses the branch of the creek leading from the pond, re-crosses it at station 3967, and crosses it again at station 4063. The beds of the pond and this creek were also dry at the time ot the survey, (Sept. 20th.) Four other small runs or drains were crossed between stations 3885 and 3915, but it was not ascertained whether they flowed into Cache river or another head branch of Village creek.

Section 2d extends to station 4291, 12¾ miles. The route, after continuing in a direction S. 48° 30′ W. for 3 miles, makes an angle of 15° and takes a course S. 32° 30′ W., for 9¾ miles, to the end of the section.

The work necessary for grading the road on this section, would be of the same character as that on the preceding section and division. The ground in general is very similar, but in some portion of the first six miles the surface is broken by little mounds and hillocks, varying in elevation from one to six feet above the general level. The line crosses one small branch at station 4069, which will require a bridge of 20 feet span; and another at station 4077, which will require a vent of 10 feet. It crosses, also, the head of Swan lake, which we found dry; over which a light embankment, only, will be necessary.

The descent in this section is 8 feet; the gradient not exceeding 3½ feet per mile.

Section 3d extends to station 4521, 13 miles. This section extends to the right bank of White river, which it crosses about three-fourths of a mile from Jacksonport, in the southern extremity of the horse-shoe bend below the town.

There was a deflection made at the commencement of this section, of 15° to the south, in order to avoid some swamps which were represented to lie in the course; but after running a little over one mile S. 17° 30′ W., the course S. 32° 30′ W. was resumed and continued to the end of the section.

The character of the ground in general is very similar to that which has already been passed over and described; and very little other work, except light embankments, will be required until an approach within two miles of the point for crossing the river, when more extensive embankments will be necessary. The route crossed the dry beds of several ponds and cypress sloughs, and one pond with water in it at station 4480.

When White river was crossed by the survey, the water was confined to a channel of 375 feet, the river being very low; but in constructing a bridge it would be necessary to make it of sufficient length to permit the great body of water, which is accumulated in a freshet, to pass. It would consequently be at least 1,800 feet in length, and would be elevated above the

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surface of low-water 32 feet. The point where the survey crossed, appeared to be a very favorable one, and a fair estimate may be made, from the data afforded here, for bridging it. It will be found necessary in this, as well as in most instances where these western rivers are crossed by a railroad, to increase the vent, a passage-way for the water, by constructing the road on piles for some distance on each side of the usual channel of the stream; and as a general rule, I would recommend to extend such structure as far as the water of usual freshets is extended.

On this section, besides the bridge of 1,800 feet for White river, there will be required a structure on piles, of half a mile in length, one bridge of 75 feet span, and three smaller bridges for crossing sloughs.

The descent in this section is 18 feet, the gradient in no place exceeding 13 feet per mile.

Section 4th extends to station 4814, the end of 4th division; 16¼ miles. This station extends over ground of about 4½ miles in extent, subject in many places to be overflowed by the high waters of the river, when it strikes more elevated and dry land. It crosses a morass of about half a mile in width, between stations 4648 and 4656, and a branch of Departee creek at station 4672. After crossing this branch, it was found that the line (which had been continued S. 32° 30′ W. for a distance of thirty odd miles, without meeting any obstacle of a serious nature) would encounter the high hills which border the valley on the right, and that an offset of about one mile in extent would have to be made to avoid them; whence the line was continued by a slight curvature, to station 4814, near another branch of the Departee, a tributary of which it crosses in its course. At station 4693 the line crosses a depression in a spur of the hills, which is the highest point that would necessarily be encountered between Black and Little Red rivers. To this point the line of location should be directed after crossing Black river, and it is more than probable that a straight line from station 3073 to this point would pass over ground quite as favorable for the construction of a railroad as that over which the survey was made. This would make 100 miles in one right line.

After passing the spur above mentioned, the line takes a course S. 32° 30′ W. again, and passes along the base of the hills bordering a branch of the Departee bayou; in which hills, both lime and granite rocks occur. It crosses then some bottom land of about four miles in extent, which is inundated in times of high-water, to the depth of 6 or 7 feet, and in many places to the depth of 10 feet. The ground thence to the end of the section is dry, and above the reach of freshets.

The grading on this section would consist almost entirely of embankment. There would be very little cutting where the spur of the hill is crossed, at station 4693, as that represented in the profile would be almost entirely avoided by a proper location. The embankments would be extensive. The aggregate length of bridging required for crossing the various sloughs and creeks would be about five hundred feet, of which there would be one bridge one hundred and fifty feet long, one of sixty, two of fifty, and two of twenty-five feet span each. It would be proper, also, to construct a considerable portion of the road, in the vicinity of the creeks, on piles.

There will be an aggregate rise of two feet in this section. The road will be undulating, but the gradient will in no instance exceed twenty-five feet per mile.

The general character of the fourth division is, in most respects, similar

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to that of the third division; and the two embrace all that portion of the swamp district traversed by the line. The route, no doubt, could be made more direct than the line surveyed, at little or no additional expense; though the latter is not objectionable on account of curvature, as the deflections, where they have occurred, can be made on any radius of curvature which may be desired; and I take occasion here to remark, that I have long since considered curves of very large radii not at all objectionable on railroads, as the centrifugal force, acting on the cars in motion, has a tendency to keep a steady but slight and uniform bearing on the outer rail, which prevents that unpleasant oscillating action of the cars which always takes place on a straight line, and which is fully as injurious to the machinery as the slight uniform bearing on the curve.

The timber on this division is very much the same as that on the third division, though the cane which has been found at intervals along the line, from the first section on the second division, has gradually increased in size, and on the fourth section of this division become quite an impediment to the progress of the survey.

The first improvement, or clearing, which the line crossed on the route, after leaving the valley of the St. François, was at station 4291, a distance of upwards of ninety-eight miles; the whole of this section being covered with a thick growth of forest trees, and the most of it with a dense underbrush, through which, for the greater portion of the distance, the party had to cut a way for the wagons which conveyed the camp equipage and provisions.

We found no running water from the time we left the St. François, on the 16th of August, until we reached Black river with our camp, on the 30th August; and after leaving Black river again, on the 6th September, until we reached Jacksonport, on the 27th. During the latter three weeks, the only water which could be procured was that which could, with difficulty and great care, be scooped up out of holes and puddles found in the beds of drains, and where trees had been uprooted by the winds, leaving holes in which, during the rains, water could collect; the water in these places made filthy, too, by the frequent visits of hogs, cattle, and the wild animals of the forest. So great is the scarcity of water in this district, that wherever these holes and puddles exist, are to be found well-worn paths, made by the animals inhabiting the forest, which come there to slake their thirst.

The fifth division extends to station 5929, on the left bank of the Arkansas river.

Section 1st extends to station 5056, on the left bank of Little Red river, thirteen and three-fourth miles.

This section extends over a bench or table land, which is cut transversely with the line of the survey by numerous small streams, requiring bridges and culverts. After crossing a large branch of Glaize creek, the course of the line was changed to S. 42° W., which was supposed would avoid the high lands, and strike the Arkansas river a short distance below Little Rock; but it was found necessary to make an offset at station 4979, of five hundred feet, to avoid a spur of the second bench of high land, from whence the line was continued at S. 42° W. The surface of the ground is undulating on this section, requiring some slight ascents and descents in the grade. The quantity of embankment preponderates; but the grading would be light, and the excavations would consist almost entirely of light clay-loam.

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The ground in the vicinity of the large branches of Glaize creek which are crossed by the line, is, as usual, near the water-courses—overflowed in times of freshets.

There will be required for crossing the larger branches of Glaize creek, one bridge of one hundred, one of seventy-five, two of fifty, two of thirty, two of twenty, and two of fifteen feet span each; besides nineteen smaller bridges or culverts, for crossing the smaller branches and drains. The total descent in this section is twenty-two feet; the gradients in no place will exceed twenty-one feet per mile.

Section 2d extends to station 5238, on the left bank of bayou Desarc, distance ten and one-third miles.

Little Red river was crossed by the line at station 5058; but at stations 5065 and 5073, it was found necessary to make offsets amounting to fourteen hundred feet, to avoid the river again, which, running about S. 10° E., where the line crossed, doubles round, and meets the line again at station 5065, running nearly northwest.

After leaving the river, the route passes to the north of Colonel Bracy's cotton plantation, and passes over ground gently undulating for about four miles, making an ascent in this distance of about twelve and a half feet, and crosses several small brooks and runs. It continues thence, to the end of the section, over a comparatively uniform surface, on which embankment will preponderate; making a descent of about twelve and a half feet.

The grading on this section will be light, and the excavations, as in section first of this division, will consist of clay-loam.

The line passes through the improvements of Alexander Crawford, John Griffins, Dr. Waters, and one or two others.

There will be required one bridge of fifty, one of thirty, three of twenty, and one of fifteen feet span, besides eight smaller bridges or culverts.

The two extremes of this section are on the same level; the gradients will in no place exceed eleven feet per mile.

The bridge for crossing Little Red river, five hundred feet in length.

Section 3d extends to station 5452, on the left bank of Cypress creek, twelve and one-tenth miles.

This section extends over a gently undulating surface, and on very favorable ground, not subject to be overflowed, except in the immediate vicinity of the large creeks, where the embankments would not necessarily be very high nor extensive. The grading would consist of embankments generally. The excavations would be clay-loam.

The line crosses bayou Desarc seven times in a distance of half a mile, passing over a number of very short bends, all of which would be avoided on a location; and but one bridge would be necessary for passing this stream. It also crosses Cane creek, at station 5300; and Bull bayou at station 5375. These streams would require bridges of one hundred and fifty, seventy-five, and one hundred and fifty feet in length, respectively: and two bridges of thirty, and four of twenty feet span, besides four smaller bridges or culverts, would be necessary for crossing smaller streams.

The two extremes of this section are also on a level; the gradients in no place exceed seventeen and a half feet per mile. The route passes through a forest, without touching an improvement of any kind.

Section 4th extends to station 5680, $13\frac{1}{10}$ miles. Several elevated ridges, which divide between the waters flowing into Little Red river and Cypress creek or bayou, on the northeast, and those which, in a more di-

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rect course, empty into the Arkansas river on the southwest, are crossed by the route on this section; and the general appearance of the country traversed is broken and hilly, intersected by numerous tributaries of the larger streams above mentioned.

There is no appearance whatever of rock on any of the ridges, and the excavations would be of the most simple character.

The road from the post of Arkansas to Fort Smith is crossed at station 5552, on the farm of John M. Bell, esq.

The main road, from Little Rock to Searcy and Batesville, is crossed at station 5631, near the summit of one of the ridges, on the farm of Taylor Whitley. Several other cultivated fields were crossed; but the country in general is very little improved. The work on this section is, in general, light, and will consist of alternate cuts and fills, in which the excavation and embankment is nearly equalized.

The elevation of the highest ridge crossed is 125 feet above the grade at the end of section 3d, or 75 feet below the level of high water at St. Louis. The gradients in general are moderate; but in one instance it exceeds 50 feet per mile. The total rise in the section is 29 feet. One bridge of 140 feet in length will be necessary for crossing Cypress creek; and six bridges of 25 feet, three of 20 feet, and twenty-one culverts, will be required for crossing the smaller streams.

Section 5th extends to station 5925, the end of 5th division. The ground is generally low and flat on this section, and, with the exception of some very slight cutting between stations 5745 and 5756, the grading would consist almost entirely of embankments, which would not average more than about three feet in height for the entire distance.

The line crosses branches of bayou Two Prairies, at stations 5680 and 5701; bayou Meto, at station 5758; and Ink bayou, at station 5844. The waters of the two former flow in a southeast direction, meander in a serpentine course through extensive prairies, and empty into the Arkansas, near the south bend. The latter flows in a south and more direct course to the Arkansas.

A number of extensive sloughs and cypress swamps are also crossed; but they will require only embankments of a simple nature, with occasionl passage-ways for water, which would be constructed on piles. The road leading from Little Rock to Memphis was crossed at station 5746, on the farm of Redick Eason, about 14 miles by said road from Little Rock.

There will be required for bridging the several streams and runs, one bridge of 100, one of 60, two of 50, and one of 30 feet in length; besides eleven smaller bridges or culverts.

The total rise in this section will be one foot. The gradients in no place will exceed 44 feet per mile; and but in two instances, in both of which the ascent is short, will they exceed 14 feet per mile.

The 4th division, 64 miles in length, extends over a section of country more diversified in its general character than the two preceding divisions. Commencing in the valley of Glaize creek, it crosses thence to Little Red river, over an undulating surface of land, and near the base of a range of hills which form a second bench of more elevated country. The ground over which the route passes is entirely free from stone of any kind; whilst the hills of the second bench are generally a mass of sand rock. To avoid these hills, the course taken by the survey, after crossing the first branch of Glaize creek, was S. 42° W.; which course was continued to the bank

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of the Arkansas river, intersecting it about three miles below Little Rock. We found the section of country lying between Glaize creek and Little Red river very much broken by the valleys of the small streams which flow from the high lands in wet weather, and between which the spurs of the hills protruded in places to some extent on the second bench. At station 4979 the line touched one of the spurs, which was quite flat on the top, for a considerable extent, and elevated about two feet above the general level of the second bench. It appeared, as before mentioned, to be one mass of sand-rock. The line passed near the base of the hills for several miles; and their altitude appeared to vary from 30 to 100 feet. The slopes, in all places visible from the route, were covered with masses and fragments of rock.

There is something very peculiar in the flat lands in this district of country; which are elevated slightly above the river bottoms, and which occur, over a section of about six miles, between stations 4887 and 5013. The general aspect here is level, or has a very slight but uniform inclination; whilst the surface is covered with innumerable little hillocks or mounds, generally with a circular or oval base, of twenty to one hundred and fifty feet diameter; nearly flat on top; and varying in altitude, above the level of the plain, from one to four or five feet.

The route crosses Little Red river, at the farm of Americus Vanmeter, about two miles below Prospect bluffs. The river is here, as it is for some distance above, confined within its banks, except in cases of extremely high freshets; when the banks, for a short distance, are overflowed to the depth of one or two feet. The distance across, from bank to bank, is 500 feet; and the elevation of the bank above the surface at low water is 29 feet. Points, equally favorable, may be found for crossing the river above this place; and the route could be so altered as to run in a direct line from station 4979 (where the spur of the high land was touched) to a suitable place for crossing the Arkansas river; which would be about 1¾ mile above the point at which the survey was crossed.

The general aspect of the country lying between Little Red river and the Arkansas, in the vicinity of the route surveyed, is very similar; and it is believed a road located in a direct line, so as to cross the Arkansas 1¾ mile higher up, as above suggested, could be constructed with equal facilities, and at the same expense.

The country from one extreme to the other of this division, with very little exception, is covered with a large growth of forest trees, which consist of the varieties of oak, gum, ash, maple, hickory, elm, &c., with underbrush and green-brier. In the swamps and bottom-lands the cypress and willow-oak predominate.

There are some extensive cypress swamps in the vicinity of the Arkansas river, but embankments can without difficulty be constructed over them.

Very little cultivated land was crossed by the route in this section. Improvements are sparse, and only exist in the immediate neighborhood of the larger streams and at intervals along the principal roads.

The work on this division will, in general, be very light.

At the time the survey was made, there was no running water in any of the streams crossed on this division, except Little Red river. Many of the water-courses were completely dried up; and in most of the others, water was only to be found in stagnant pools, in the beds of the streams. The flat lands are always very wet in rainy weather, and it would be found

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necessary, as well as less expensive, to construct the road on embankments generally.

The most elevated point crossed by the route between the St. François and Arkansas rivers is at station 5593, on the ridge between Cypress creek and Arkansas river: which is 75 feet below high water of the Mississippi at St. Louis, and 116 feet above the low water of the Arkansas. Another elevated point crossed, is where the route intersects the road from Searcy to Little Rock, at station 5,637, which is 11 feet lower than the point above mentioned.

This division embraces a district of country in which the culture of cotton has been introduced, and may be considered the principal staple commodity. The article produced is of fair quality.

The 6th division extends to 7064, on the right bank of the Ouachita river; section 1st extends to station 6182, 14¼ miles. The bridge necessary for crossing the Arkansas river is the most important structure and item of expense on this section. The river where the line crossed, was 2,200 feet from bank to bank; but the water was confined, at the time the survey was made, (October 25th) to a channel of 600 feet, which is the usual extent at low water.

The bridge at the point above, recommended for crossing the river, would probably be 2,600 feet in length, as the river at that point appeared a little wider than where the survey was made. After crossing the stream—having been informed by those supposed to be most familiar with the character of the ground, that no difficulties would be met with if the course S. 42° W. was continued, and that the general character of the ground to the right or west of this course was very rugged, and broken by high, rocky hills bordering the valley of Fouche bayou on each side, which on the right bank of the creek rose to a great elevation—I determined to pursue this course until I reached the summit near the head of Fouche; but in the first three miles after crossing Fouche, the high, rocky hills were encountered, and an ascent was made by the valley of a small run to an elevation of 100 feet, when, finding obstructions of the same character still ahead, and a much greater elevation to be crossed, this course was abandoned and an offset along the bank of the Arkansas, of 3,200 yards, was made in the survey, in order to commence the line on the right bank, so as to connect with the route as above recommended to be altered.

The hills bordering the valley of Fouche bayou are very high, and those on the right of the stream appeared to be one mass of granite. There is an isolated hill within four miles of the Arkansas on the right bank of Fouche, called the Iron mountain, which rests on a base of granite of very superior quality for building, from which blocks of any dimensions can be obtained. This hill rises to an elevation of between two and three hundred feet. The offset above referred to, which could not be conveniently made at right-angles to the line, was made from station 5938; and the number corresponding to this at the end of the offset is consequently about 1,400 yards in advance of the position it would have occupied, if the offset had been made at right-angles. This it was supposed would not alter materially the character of the survey, and the profile and numbers of stations have been continued thence, as if no alteration had been made. From the end of the offset, distant about 250 yards west of the residence of James Keates, esq., the route was continued S. 45° W., for five miles, passing over the bottom land of the river, crossing a depression in a narrow ridge at station

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5966, and thence, ascending the valley of Fouche bayou on the left bank, crosses the stream at station 6004. Fouche being very serpentine in its course, and the valley inundated by the back-waters of the Arkansas in times of freshets, to a depth of 10 to 12 and 15 feet in many places, it was thought advisable not to follow the valley, but to continue the line more directly across the country. Accordingly, after crossing to the right bank, the line was continued in a southwest course, until it was found necessary to make an offset in order to strike a depression in a spur of hills at station 6064, where the course was changed to S. 55° W., and continued over the spurs of the hills bordering the valley, to the end of the section.

After crossing the Arkansas river, the line should be directed so as to strike the depression at station 6004. The course thence to the end of the section should have been about S. 60° W., which would have crossed lower on the slopes of the hills, and passed over much less undulating ground between stations 6100 and 6182.

The route, after passing over very undulating ground, and crossing numerous small tributaries of Fouche bayou, strikes the valley of Crooked creek, one of the principal head branches of Fouche.

From the Arkansas the work would be very light for two miles, where the route intersects the valley of Fouche, over which it will be necessary to raise the embankment to an average of ten feet for three miles; from whence to the end of the section, there would be an alternation of moderate cutting and filling.

There did not appear any indication of rock where the cutting would occur; and by altering the line as above suggested, the amount of cutting would be so reduced, as to make the average grading on the section very light. There would be required for crossing the bayous, creeks, and branches, one bridge of three hundred, one of two hundred, two of thirty, three of twenty-five, and three of twenty feet in length, besides about twenty smaller bridges and culverts.

The total rise on this section is sixty-eight feet. The greatest ascent per mile will be in ascending the ridge, on leaving the valley of Fouche, at station 6050, from whence to station 6064, a distance of fourteen hundred yards, the gradient will be 62.8 feet per mile. The other gradients would be avoided or very much reduced by a judicious location.

Section 2d extends to station 6414, on the right bank of Saline river. The valley of Crooked creek is very circuitous, and after ascending it for a distance of about two miles, it was found necessary to cross over to another branch of Fouche, and ascend by its valley to the dividing ridge between it and the waters of Hurricane creek; which ridge was crossed at a very favorable point in a depression near the house of J. H. Crease, esq. From this point the route continues a course S. 72° W., until it crosses the valley of Hurricane creek, about a quarter of a mile from the point where the road from Little Rock to Washington and Fulton crosses it. After crossing Hurricane creek, the route takes a course S. 53° W., and ascends, by the valley of a small tributary, to the summit between it and Hughes's Mill creek, and then curving in a more southerly direction, follows the valley of Hughes's Mill creek to its intersection with Saline river, which it will cross about two hundred yards south of the ford on the Little Rock and Fulton road. By a judicious location, the grading on this section would be very light, and the excavations would consist principally of sand and gravel.

The banks of Saline river are higher where the road would cross, and

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the stream would be more confined within them, than where the line crossed. This river would require a bridge of five hundred feet in length, and a structure for the passage of water in freshets, about one thousand feet long. There would be necessary for crossing the other streams, one bridge of two hundred, one of one hundred, one of fifty, one of forty, two of thirty, and three of twenty feet in length; besides about twenty-four culverts.

The total fall on this section is forty-three feet. The gradients are necessarily steep, but short; and in no case will they exceed seventy feet per mile.

The most elevated point crossed is on the ridge between Hurricane creek and Hughes's Mill creek, at station 6310, which is thirty-three feet above high water at St. Louis.

Section 3d extends to station 6625, on the right bank of the St. François creek, twelve and one-eighth miles. From the beginning of this section, the line runs S. 30° W., nearly parallel, and within about three miles of the Saline, for a distance of nine miles; when it takes a course S. 46° W., until it crosses the southern branch of St. François creek, passing midway between the road from Little Rock to Fulton and the Saline river.

The valley of the Saline is bounded on the right by very high hills, over which the road from Little Rock to Fulton is located. The route surveyed runs over a bench of land elevated above the bottom land of the river, and extending to the base of the hills bordering the valley. It crosses nearly at right-angles all the small streams which flow into the river from the right. The surface consequently is very undulating, which makes it necessary to have numerous short ascents and descents in the grade of the road, to equalize on some portions of it the cutting and filling. All the excavations, however, would be in light sandy soil, with some gravel, and none of them would be very extensive. The embankment would preponderate.

The Saline, where the survey crosses it, runs in a southeast course, which it continues for about three miles, when it takes a course to the southwest, and runs nearly parallel to the line. The space between the river and the route surveyed varies from three to four miles, and the bottom lands are very extensive. The bridges required would be two of 200, one of 100, two of 50, two of 30, and two of 20 feet in length; besides seventeen small bridges or culverts. The total fall on this section is 15 feet; the gradients moderate.

Section 4th extends to station 6794, 9¼ miles. This section crosses the ridge dividing between the waters of the Saline and the Ouachita rivers. The route leaves the valley of Saline river, or St. François creek, by ascending a small ravine which heads near the house of Benjamin Clardy, esq., where it crosses the road from Camden to Little Rock. It runs thence S. 45° W., and passes through a remarkable depression in the dividing ridge at station 6674, when it curves a little more to the west, to avoid more elevated ground; and changing the direction again at station 6715, takes a course S. 48° W., to the bottom lands of the Ouachita.

The line passes over numerous spurs of sand ridges, as it must necessarily do to preserve a direct course, but by slight curvatures many of them may be avoided. The route, however, would be much improved by taking a course after passing the gap at station 6674, so as to strike a point 500 yards to the right of the line at the end of this section. This would take the route over a more even surface, and make the road less undulating.

There are a number of points on this section where the cutting will ex-



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ceed 20 feet in depth; but the cuts will all be short, and the excavations will consist of sand and gravel. The grading, consequently, would not be extensive.

The hills and ridges are composed of sand and gravel, with some boulders of quartz of inconsiderable size. There will be required, one bridge of 50, one of 40, one of 30, and two of 20 feet in length; and thirty-three culverts. The two extremes of this section are on the same level, being 150 feet below high water at St. Louis. The highest gradient necessary will be in the ascent from St. François creek, which is 64½ feet per mile for 1¾ mile. This ascent is to the most elevated point crossed between the Saline and Ouachita rivers; the elevation of the ridge here being but 24½ feet below high water at St. Louis. The elevation of the gap on the dividing ridge at station 6674, is 42¼ feet below.

Section 5th extends to station 7064, on the right bank of the Ouachita river. The route passes along the valley of the Ouachita for the entire length of this section. The course, S. 48° W., was continued to station 6044, where it struck a bend in the river. An offset was here made to the left, of 2622 feet, and a course (S. 45° W.) taken which was calculated would strike the river at the most favorable place for crossing, and avoid the large ponds and sloughs which lie in the vicinity of the river. On approaching the river, it was found necessary to make an offset 1,500 feet to the right again; as the course of the line, if prolonged, would strike the river immediately in the horse-shoe bend, above which the road should cross.

In locating the road on this section, it will be necessary to make only one slight curve, to avoid striking the river at the bend near station 6944, which may be made on any radius of curvature desired.

The ground passed over has a very gradual descent for the whole distance. The fall in the first three and a quarter miles is thirty-two feet, after which it descends on an average of about three feet per mile for eleven miles. As the surface is uniformly flat, the water in rainy weather remains on it; and in constructing a road, it will be necessary to form an embankment for the entire length of the section. On approaching the river the embankment would be raised to an elevation of nearly ten feet for two miles, to place the road above the reach of freshets; or a structure on piles may be substituted, so as to give more vent for the water.

The line passes through a perfect wilderness from one extreme to the other of this section, covered with large trees, consisting of oak, pine, hickory and gum, with a dense undergrowth of holly, and extensive canebrakes. It is also intersected by numerous sloughs, bayous, and small ponds. The nature of the soil, however, is a clay-loam, and affords an excellent foundation for a road. There will be required, two bridges of 100, one of 75, one of 60, two of 50, one of 40, one of 30, and two of 20 feet in length, besides ten of less dimensions, on this section. The bridge for crossing the Ouachita should be at least 1,200 feet in length. The total fall is 63 feet, the gradient in no place exceeding 16¾ feet per mile.

The line having been altered as suggested in the description of the fifth division of the route, by an offset on the right bank of the Arkansas, will cross the Arkansas about one mile below Little Rock.

The sixth division, crossing at this point, extends to the right bank of the Ouachita river, a distance of 64¾ miles.

The most favorable route which presents after crossing at this point, is to make an ascent by the valley of Fouche bayou to the dividing ridge at its

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source; and thence, by the route described in sections 2d and 3d, to St. François creek, in the valley of Saline river, from whence it is questionable whether a better route might not be found by ascending the more southern branch of St. François creek, to the ridge dividing between it and a stream called Low Freight creek, following the valley of that creek, which is very straight in its course, to the Ouachita, crossing the Ouachita about six miles below Arkadelphia, thence through Prairie de Anne, and so on in a direct line to Fulton.

This route would take the road over much less elevated ground between the Ouachita and the Little Missouri river; but this may prove of no great advantage, as the principal streams which are crossed by the route surveyed would be crossed at points seven or eight miles lower down, and the same undulating surface would exist, making steep gradients and extensive excavations and embankments necessary there also.

The summit at the head of Fouche bayou is on the ridge dividing between the waters which flow into the Arkansas and Red rivers, and is only about eighteen miles from the former. The hills which border the valley of Fouche as the summit is approached, are high, and the country very much broken, the numerous head branches of the bayou intersecting it in every direction.

The valley is overflowed by the back-waters of the Arkansas in time of freshets, several miles above the point where the survey crossed the stream; and the bottom lands being extensive and very low, the construction of a railroad would be expensive if located along the valley. It would be advisable, however, to make an examination with instruments, before a location is made, as much of the undulation on the route surveyed may be avoided.

The summit was crossed at an elevation of 196¼ feet above the surface of the water in the Arkansas river at low water, and 4¼ feet above high water at St. Louis. After crossing the ridge, the route extends in the next mile across the valley of Hurricane creek, (which it intersects at right-angles,) and thence, as described in section 2d, by valley of Hughes's Mill creek to Saline river.

The valley of Hurricane creek is about half a mile wide where the line crossed, and the bottom is extensively overflowed in times of freshets. The bed of the creek, which was dry at the time of crossing it, (November 5th,) was 56 feet below the summit at the head of Fouche.

The route, after approaching to within one-fourth of a mile of the main road from Little Rock to Washington and Fulton, at Hurricane creek, continues along nearly parallel with the road to the Saline river; the road passing over the hills bordering the valley of Hughes's Mill creek on the right, whilst the route follows the course of the stream, leaving the town of Benton about half a mile to the right of the line.

The ridges and elevated land lying between the Saline and the Arkansas, in this district, are composed principally of loose and compact gravel and sand.

The route along the valley of the Saline might pass over a less undulating surface, and cut the spurs of the hills on lower ground, by locating the road to the left of the line and nearer the river; but there would be a slight increase of curvature, and the length of the road also increased in a trifling degree.

After leaving the valley of the Saline, the line passes over the most

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favorable route for crossing immediately to the valley of the Ouachita. The ridge over which it passes is very much broken and of unequal elevation, appearing in high, isolated knobs and ridges, and deep depressions. The hills and uplands are composed principally of loose and compact gravel and sand, as are also the hills bordering the Ouachita on the left.

The valley of the Ouachita was intersected about two miles southwest of the village of Rockport, where the military road, or main road from Little Rock to Fulton, crosses the river.

On the right bank, the hills for nearly the whole extent of the valley between Rockport and Salt Spring, (a distance of about 16 miles,) come boldly up to the stream, leaving but little flat land between them and the river, whilst the bottom lands on the left, over which the survey was made, are very extensive. The valley is from three to five miles wide, and a great portion of it is inundated in time of freshets.

The route passes through a few farms on the ascent from the Arkansas to the summit at J. H. Crease's, and through two or three in the section between that point and Saline river; but the extent of cultivated land is very inconsiderable.

After crossing the Saline, the line touches no improvement whatever for a distance of thirty-seven miles, except the farm of Benjamin Clardy, on the road from Camden to Little Rock, and two small clearings at station 6726 and station 6764, the latter being near the house of Commodore Perry Brewton, at the point where the line first strikes the valley of the Ouachita.

Besides the varieties of oak, hickory, ash, elm, &c., there is an inexhaustible quantity of very superior and large yellow-pine timber on the whole extent of the district embraced on this division.

The most elevated point crossed by the route in this division is at station 6310, on the summit between Hurricane creek and Saline river, which is thirty-three feet above the level of the base line, or high water at St. Louis. The ridge between Fouche bayou and Hurricane creek is 4.39 feet above; and the most elevated point on the line between the Saline and the Ouachita, at station 6648 is 65.5, below the base line.

The surface of water in the Saline was 153 feet, and that of the Ouachita was 229 feet, below the base line. The Ouachita, however, was swollen by recent rains.

The Ouachita is crossed about two miles north of the town of Arkadelphia.

The seventh division extends to the termination of the survey at Fulton, on Red river.

This division embraces a district in which the large streams and their principal branches intersect the country in directions transverse to the desired route for the road. The general surface of the land is high; the beds of the principal streams are low, and their branches numerous. A road crossing it would consequently have many ascents and descents: the gradients would necessarily be steep, and the excavations and embankments extensive.

After crossing the Ouachita, it was found necessary to take a course for a distance of two and a half miles a little more west than the direct line thence to Fulton, in order to make the ascent from the valley of the Ouachita more gradual, as the hills which border the valley on the right are high and of steep declivity. After making this ascent in a direction S. 53° 30′ W. from the crossing point at the river, the line was continued S. 45° 30′ W. for five miles; and thence S. 47° 30′ W. forty-nine miles, till it approaches within three miles of Fulton; when, finding the line, if extended,

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would strike the river below the town, a course S. 83° 30′ W. was taken, so as to avoid some wet bottom lands, and strike the river above.

The route, though very direct from the Ouachita to Fulton, crosses the numerous ridges, with very few exceptions, at very favorable points where there are depressions, from which small runs or drains flow into the branches on one or both sides of the ridge. This was in a great measure accidental, as it could not have been supposed that so many depressions of this nature could come in contact with a straight line for such an extent.

The route from the Ouachita to Fulton could no doubt be much improved by occasional flexures, in order to avail more generally of the ascents and descents by the valleys of these drains or runs, and to pass through the more favorable depressions in the numerous ridges; but the season of the year in which the survey was made through this district (November and December,) made it necessary to conduct it with as much expedition as possible, so that it might be accomplished before the usual rains made the low grounds impassable. The line in this division may be considered of a more experimental nature than it has been in the preceding divisions; though it may answer all the purposes for which the survey was intended. In reference to this district particularly, however, I would respectfully suggest that the route mentioned in the description of the 6th division, by the southern branch of St. François creek and Low Freight creek to the Ouachita, and thence to Fulton, should be examined in case any further surveys in connexion with this route may be considered necessary, as there is a probability that such a route may prove more favorable.

The country betweeen the Ouachita and the Little Missouri rivers is very much broken, and very hilly; and the hills, though consisting of gravel and sand generally, are of steep declivity.

After crossing the valley of the Little Missouri, which is very spacious, the country is of much the same character, though the hills are not so high and steep, until you approach within seventeen miles of Fulton, where it becomes gently undulating.

The line passes through very few improvements, and those generally not extensive, consisting mostly of a small cabin, and from 20 to 40 acres of cultivated land. It crosses the road from Arkadelphia to Washington at station 7165, near the house of the widow Hurd; passes through Graham Manning's cotton plantation at station 7203, and crosses the Little Missouri about 200 yards below Elkin's Ferry. The first cultivated ground the line strikes in a distance of 19 miles after passing the Little Missouri, is the cotton plantation of Col. Thomas Williamson, situated on the road from Washington to Camden, which the route crosses at station 7825. The road from Spring Hill to Washington is crossed at station 7888, on the farm of Mr. Sitzer, and the plantation of Mr. Poindexter is crossed between stations 7916 and 7928.

The soil in the valleys and bottoms in this district consists of a lig loam. In the valley of the west branch of the Deciper, on the right of the stream, about half a mile to the right of the line, on the plantation of Michael Bozman, numerous marine shells appear in the soil and on the sides of the hills; and in the bottom of a small run exists a large bed of marl.

The hills are composed of compact and loose gravel and sand generally; though between the Ouachita and Little Missouri rivers a stratum of stiff blue and red clay appears about the base of the hills, and where the banks are washed by the waters of the creeks.

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The timber throughout this district is very fine, and consists of pine, hickory, sweet gum, ash, holly, and the varieties of oak. The holly trees are very large, many of them attaining the height of 70 and 80 feet, and a diameter of the trunk of 18 or 20 inches. The pine also grows to a large size, and makes beautiful timber for building purposes.

The staple commodity of this district is cotton; but it is not cultivated to any great extent, as the improvements are very sparse. The length of the 7th division is 59¼ miles. It extends to a point on the north of the town of Fulton, and 800 yards above the point from which the survey from Fulton to the Mississippi at Lake Providence was commenced, and to which this survey was connected by course, distance and levels.

Section 1st of 7th division extends to station 7184, 6¾ miles.

It was found necessary, after continuing the course S. 45° 30′ W. for a mile, on the right of the Ouachita, to make an offset to avoid the abrupt rise of the hills, which would change the course from station 7053 to S. 53° 30′ W., which course was continued along the slope of the hills to station 7108, from whence a more direct course was taken towards Fulton.

The line, after the alteration by offset, as above stated, would pass over more elevated ground in the valley of the Ouachita; and the high embankment, as exhibited in the profile, would be very much reduced. The route thence to the valley of the west branch of Deciper creek, at the termination of the section, may be slightly improved, or the quantity of excavation and embankment reduced, by occasional curvatures.

The road must necessarily be very undulating on this section, and the gradients steep.

The excavations will be deep, but not expensive, and will consist of loose and compact gravel and sand.

The ascent, by grade, from the valley, will require a gradient of 97.7 feet per mile, for one mile. The ascent of 50 feet from the valley of Mill creek will require a gradient of 110 feet; and the descent of 70 feet to the west branch of the Deciper, a grade of 122 feet per mile. One bridge of 60, one of 40, three of 30, one of 20, and one of 10 feet span, besides 10 culverts, will be required for crossing the numerous streams. The total rise on the section will be 138 feet.

Section 2d extends to station 7281, 5¾ miles.

This section extends over ground very much broken by the ravines of the small tributaries of Bradshaw's and Terre Noir creeks, both of which streams it crosses. Three branches of the latter are crossed a short distance above their confluence, in an extensive flat valley, where the section ends.

The cuts and fills will be numerous, deep, and short, in which the excavation and embankment will be nearly equalized.

The valley of Terre Noir creek is overflowed in times of freshets, and will require a light embankment over the whole extent of it.

The excavations will consist of gravel and sand.

One bridge of 100, one of 60, one of 50, one of 30, and twenty of 20 feet span, besides 23 culverts, will be necessary for crossing the various streams.

The total fall on the section is 140 feet. The gradients are all steep; and in one instance, between stations 7184 and 7194, the gradient will be 123 feet per mile.

Section 3d extends to station 7381, in the valley of Moore's creek, 5¼ miles.

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This section is very similar, in every respect, to section 2d. The ridges are high, and their summits approach very nearly the level of the base line on high water of the Mississippi at St. Louis. At station 7366, the most elevated point on the line, and where there is a depression in the ridge, the ground is but 276 feet below the base line.

One bridge of 60, one of 40, one of 25, and one of 20 feet span, besides 24 culverts, will be required for crossing the various streams.

The total rise in the section is eighty feet. The steepest gradient is 94.2 feet per mile.

Section 4th extends to station 7[illegible]5, on the right bank of the Little Missouri river, five and three-quarter miles. The ground on this section is very much broken, and the profile of the route exhibits an excessive quantity of excavation and embankment, with steep gradients; but the embankments and excavations may be reduced in a great degree by a judicious location on slight curvatures, in the immediate vicinity of the line. It is also very probable that more favorable points for crossing the ridges between Moore's creek and the valley of the Little Missouri may be found, where both the gradients and amount of excavation and embankment would be greatly reduced. There are numerous depressions in the high hills bordering the left of the valley of the Little Missouri, similar to the one on the right of the line at station 7458, (which is at least thirty feet lower than where the line crossed,) some one of which might be availed of in connexion with a more favorable location on this section. The valleys of the principal streams, however, traverse the country nearly at right-angles to the line; and the ridges intervening being high, the grading must necessarily be expensive. The ridge between Moore's creek and the Little Missouri, at station 7904, the point where the line crosses, is but 27 feet below the base line, whilst the valley of Moore's creek is 117, and the valley of Little Missouri is 205 feet below it.

The bottom land of the Little Missouri, which is very extensive, is overflowed, in times of freshets, to the base of the hills or bluffs on the left, and will require an embankment of eight to ten feet elevation for the whole extent. The river, when confined within its banks, will require a bridge of four hundred feet in length; but sufficient vent must be given for the water during freshets, by a structure on piles, in place of embankments on each side.

The excavations will consist of gravel, loose and compact.

In addition to the bridge across the Little Missouri, there will be required, for crossing the other streams on this section, two of forty, one of thirty, and two of twenty feet span, besides twenty culverts.

The steepest gradient is 105.6 feet per mile. The total fall is sixty-four feet.

There is but little pine on this section. The timber consists of oak, gum, elm, ash, and hickory. On the flat land of the valley of Little Missouri the timber is sparse. There is a thick growth of holly and young cane, and some palmetto, which was the first seen on the survey.

Section 5th extends to station 7576, five and a quarter miles.

The route extends over bottom lands altogether in this section. It crosses Howard's creek within six hundred yards of the Missouri river, and continues up the right bank until it strikes the hills bordering the valley.

The grading will consist entirely of embankment, raised sufficiently high

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only to keep the road dry, and will average about three feet in height for the whole extent.

After crossing Howard's creek the ascent is very uniform, but the surface is covered with innumerable little hillocks or knolls, such as described in other parts of the route.

Howard's creek will require a bridge of one hundred feet in length, and one bridge of twenty feet; besides, six culverts will be necessary to cross the smaller streams.

The timber consists of pine and oak principally. The holly, also, is very thick. The soil is sandy. The total rise is sixty-five feet, the steepest gradient 29.2 feet per mile.

Section 6th extends to station 7704, seven and a quarter miles.

The line passes over very undulating ground on this section, crossing the spurs of hills between the small tributaries of one of the branches of Howard's creek, and crossing the ridge between Howard's creek, or the Little Missouri, and a branch of Terre Rouge creek, at station 7643, at an elevation of 15.5 feet above the base line, which is the highest point on the line between the Saline and Red rivers. The general aspect of the country on this section is very similar to that of sections second and third, though not quite so much broken, and the declivities of the hills are not so abrupt. There will be a succession of excavations and embankments, and ascents and descents, with steep gradients.

The excavations will consist of gravel principally.

One bridge of forty, two of thirty, and three of twenty feet span, and fourteen culverts, will be required for crossing the various streams.

The total rise will be twenty feet, the steepest gradient 1.32 feet per mile, for about half a mile, which may be reduced, however, by increasing the excavation through the sand ridge at the summit.

This section lies northwest of Prairie de Anne, and passes within three miles of it. The surface of the prairie is rolling, and the elevation about the same as that of the surrounding country.

The route suggested *viz* Low Freight creek would pass over this prairie, and cross several additional branches of Terre Rouge creek, which would probably make it fully as undulating on this particular section as the route surveyed.

Section 7th extends to station 7825, seven miles.

The route continues to pass over ground intersected by the head branches of Terre Rouge creek, and the section terminates at the road from Washington to Camden, on the ridge dividing between Terre Rouge and Bois d'Arc creek, on the cotton plantation of Thomas Williamson, esq. The line crosses most of the ridges in depressions, and may be considered a favorable location on this section, though the gradients and the quantity of excavation and embankment may be reduced by occasional curvatures.

The general aspect of the country is more rolling, and the declivities of the hills less steep, than in the preceding sections. The nature of the soil is very much the same, and the excavations would consist principally of sand and gravel.

There will be required one bridge of 60, two of 40, two of 30, and two of 20 feet, besides sixteen culverts, for crossing the various streams.

The total rise is 65 feet on the section. The gradients, though steep, are short. The excavation and embankment will be nearly equalized, and the quantity of excavation moderate.

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Section 8th extends to station 7978, 8⅝ miles. The route in this section crosses numerous small branches of the headwaters of Bois d'Arc creek, between which the ridges are less elevated than those between the head branches of Terre Rouge; and the surface of the country in general has a gently waving aspect.

The line passes through the plantation of Mr. Poindexter for a distance of more than a mile, between stations 7916 and 7928. The grading in general on this section will be light. The excavation will consist of sand and gravel. The timber is principally oak and hickory, with very little pine intermixed.

There will be one bridge of 100 feet, one of 60, one of 40, three of 30, and six of 20 feet span, necessary for crossing the larger, and eighteen culverts for crossing the smaller branches of Bois d'Arc. The gradients are gentle. Total fall 109 feet. The line crosses the road from Spring Hill to Washington, on this section, at station 7888, on the plantation of Mr. Sitzer.

Section 9th extends to station 8107, on the left bank of Red river, 7⅜ miles. The ground continues of very much the same character as in section 8th.

The bottom land of the river in the vicinity of Fulton is about 25 feet below the general surface of the flat table-land crossed by the route in approaching it. The bottom on the left bank, near Fulton, is quite a narrow strip, not exceeding half a mile in extent, whilst on the right bank it extends a great number of miles, and at common high water is inundated, making Fulton a point very unfavorable for crossing. The left bank is high, and seldom overflowed by the river, even in times of freshets.

The grading on this section will be light, and the excavations of the most simple character. One bridge of 150 feet, one of 70, one of 30, and three of 20 feet span, will be necessary, besides fifteen culverts, for crossing the streams. The surface of the water in Red river at Fulton, at the termination of the survey, was found to be 200.10 feet below the elevation of the high freshet of the Mississippi, at St. Louis, of 1844; and the point of junction at Fulton with the survey, from thence to the Mississippi, at Lake Providence, 170.20 feet below the same.

I have the honor to submit, herewith, a general map of the country, copied from the published sectional maps of Missouri and Arkansas, on which the route surveyed is traced in red, and also maps and profiles of the route, the horizontal scale of which is eight inches to the mile, and vertical scale 100 feet to the inch, on which we exhibited the topography of the country in the immediate vicinity of the route, the gradients, and the extent of cutting and filling.

The annexed tables exhibit the gradients and estimated cost of construction.

In conducting this survey without a preparatory reconnoissance or examination of the general character of the country, I was necessarily governed by conclusions drawn from the topographical features exhibited by the published maps, and information obtained from the inhabitants of the country as I progressed. The first, though very imperfect in detail, aided me in a great degree, but from the latter very little information could be obtained that could be relied upon.

The line for a great portion of the route traversed a wilderness unexplored, except by those whose pursuits did not lead them to reflect on subjects of this nature, and who, like others, whilst following the elk and

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buffalo, unfortunately for the progress and success of internal improvements, never conjectured they were in the *paths of science and art.*

In organizing a party for field operations, I was obliged to rely upon the recommendation of others in procuring assistants, who proved to be very inefficient, and left the party at a time when the services of assistants were most important. Their places, however, were fortunately well supplied by young gentlemen of the party, who as mere novices had commenced the survey, but had acquired, by their zealous attention to their duty, a knowledge which enables them to render most important services; and it gives me pleasure to avail myself of this opportunity to express my thanks to Mr. W. D. Sanger, J. Milton McVeigh, and J. S Stuart, who respectively performed the duties of sub-assistants and rod-men to the party, for their indefatigable exertions to advance the survey, and for the assistance they so cheerfully on all occasions rendered.

The above is respectfully submitted.

JOSHUA BARNEY.

To Col. J. J. Abert,
*Bureau of Topographical Engineers, Washington.*

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# TABLE OF GRADIENTS.

## SECOND DIVISION.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. |
|---|---|---|---|---|---|---|---|
| 2,000 | ..... | 8.8 | ..... | 10 | 415 | ..... | 65 845 |
| 700 | ..... | ..... | Level.... | Level.... | 415 | ..... | 65 1545 |
| 1,860 | 19.5 | ..... | 20 | ..... | 435 | ..... | 66 885 |
| 1,600 | ..... | 21.9 | ..... | 20 | 415 | ..... | 67 725 |
| 1,500 | 25.2 | ..... | 30 | ..... | 445 | ..... | 68 465 |
| 1,503 | ..... | 70.4 | ..... | 60 | 385 | ..... | 69 205 |
| 1,700 | ..... | ..... | Level.... | Level.... | 385 | ..... | 70 148 |
| 1,000 | ..... | 17.6 | ..... | 10 | 375 | ..... | 70 1148 |
| 2,200 | ..... | 12 | ..... | 15 | 360 | ..... | 71 1588 |
| 1,800 | ..... | 9.77 | ..... | 10 | 350 | ..... | 72 1628 |
| 3,200 | ..... | 22 | ..... | 40 | 310 | ..... | 74 1308 |
| 1,700 | 10.40 | ..... | 10 | ..... | 320 | ..... | 75 1248 |
| 2,012 | ..... | 26.40 | ..... | 30 | 290 | ..... | 76 1500 |
| 3,160 | ..... | ..... | Level.... | Level.... | 290 | ..... | 78 1080 |
| 1,400 | ..... | 42.7 | ..... | 34 | 256 | ..... | 79 720 |
| 1,800 | ..... | 5.3 | ..... | 6 | 250 | ..... | 80 760 |
| 1,200 | ..... | ..... | Level.... | Level.... | 250 | ..... | 81 200 |
| 1,200 | ..... | 51.8 | ..... | 35 | 215 | ..... | 81 1400 |
| 2,600 | ..... | 27.1 | ..... | 40 | 175 | ..... | 83 480 |
| 5,000 | ..... | 34.7 | ..... | 15 | 160 | ..... | 86 200 |
| 5,000 | ..... | 3.5 | ..... | 10 | 150 | ..... | 88 1680 |
| 800 | ..... | ..... | Level.... | Level.... | 150 | ..... | 89 720 |
| 1,000 | ..... | 17.6 | ..... | 10 | 140 | ..... | 89 1720 |
| 3,200 | ..... | ..... | Level.... | Level.... | 140 | ..... | 91 1400 |
| 2,000 | ..... | 22 | ..... | 25 | 115 | ..... | 92 1640 |
| 4,700 | ..... | ..... | Level.... | Level.... | 115 | ..... | 95 1060 |
| 2,200 | ..... | 20 | ..... | 25 | 90 | ..... | 96 1500 |
| 300 | ..... | ..... | Level.... | Level.... | 90 | ..... | 97 40 |
| 1,300 | 11 | ..... | 15 | ..... | 105 | ..... | 97 1340 |
| 1,100 | ..... | 48 | ..... | 30 | 75 | ..... | 98 680 |
| 2,740 | ..... | ..... | Level.... | Level.... | 75 | ..... | 99 1660 |
| 1,000 | ..... | 17.6 | ..... | 10 | 65 | ..... | 100 900 |
| 2,500 | ..... | 21.1 | ..... | 30 | 35 | ..... | 101 1640 |
| 2,600 | 71.1 | ..... | 105 | ..... | 140 | ..... | 103 720 |
| 900 | ..... | ..... | Level.... | Level.... | 140 | ..... | 103 1620 |
| 3,700 | ..... | 57 | ..... | 120 | 20 | ..... | 106 40 |
| 1,100 | ..... | ..... | Level.... | Level.... | 20 | ..... | 107 1140 |
| 2,500 | ..... | 14.1 | ..... | 20 | ..... | ..... | 108 120 |
| 1,400 | ..... | ..... | Level.... | Level.... | ..... | ..... | 108 1520 |
| 1,300 | ..... | 20.3 | ..... | 15.... | ..... | 15 | 109 1060 |
| 9,800 | ..... | ..... | Level.... | Level.... | ..... | 15 | 115 300 |
| 2,000 | ..... | 26.4 | ..... | 30 | ..... | 45 | 116 540 |
| 7,100 | ..... | ..... | Level.... | Level.... | ..... | 45 | 120 600 |
| 3,100 | ..... | 5.7 | ..... | 10 | ..... | 55 | 122 180 |
| 1,700 | ..... | ..... | Level.... | Level.... | ..... | 55 | 123 120 |
| 1,600 | ..... | 5.5 | ..... | 5 | ..... | 60 | 123 1720 |
| 18,400 | ..... | ..... | Level.... | Level.... | ..... | 60 | 134 760 |
| 5,000 | ..... | 3.5 | ..... | 10 | ..... | 70 | 137 480 |
| 10,000 | ..... | ..... | Level.... | Level.... | ..... | 70 | 142 1680 |
| 5,000 | ..... | 3.5 | ..... | 10 | ..... | 80 | 145 1400 |

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# TABLE OF GRADIENTS.

## THIRD DIVISION.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. |
|---|---|---|---|---|---|---|---|
| 10,000 | ..... | 1.7 | ..... | 10 | ..... | 90 | 151 840 |
| 15,000 | ..... | ..... | Level.... | Level.... | ..... | 90 | 160 |
| 10,000 | ..... | 1.7 | ..... | 10 | ..... | 100 | 165 1200 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 100 | 168 920 |
| 1,600 | 55 | ..... | 5 | ..... | ..... | 95 | 169 760 |
| 3,400 | ..... | 2.5 | ..... | 5 | ..... | 100 | 171 640 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 100 | 174 360 |
| 3,900 | ..... | 4.5 | ..... | 10 | ..... | 110 | 176 740 |
| 5,700 | ..... | ..... | Level.... | Level.... | ..... | 110 | 179 1160 |
| 2,000 | ..... | 8.8 | ..... | 10 | ..... | 120 | 180 1400 |
| 8,400 | ..... | ..... | Level.... | Level.... | ..... | 120 | 185 1000 |
| 1,600 | 5.5 | ..... | 5 | ..... | ..... | 115 | 186 840 |
| 3,400 | ..... | ..... | Level.... | Level.... | ..... | 115 | 188 720 |
| 2,600 | ..... | 10.1 | ..... | 15 | ..... | 130 | 189 1560 |
| 7,400 | ..... | ..... | Level.... | Level.... | ..... | 130 | 194 160 |
| 1,600 | 5.5 | ..... | 5 | ..... | ..... | 125 | 195 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 125 | 197 1480 |
| 2,500 | ..... | 3.6 | ..... | 5 | ..... | 130 | 199 460 |
| 4,500 | ..... | ..... | Level.... | Level.... | ..... | 130 | 201 1440 |
| 1,400 | ..... | 6.3 | ..... | 5 | ..... | 135 | 202 1080 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 135 | 205 800 |
| 2,600 | ..... | 3.4 | ..... | 5 | ..... | 140 | 206 1640 |
| 2,400 | ..... | 3.7 | ..... | 5 | ..... | 145 | 208 520 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 145 | 211 240 |

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# TABLE OF GRADIENTS.

## FOURTH DIVISION.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. | |
|---|---|---|---|---|---|---|---|---|
| 5,000 | ..... | 1.6 | ..... | 5 | ..... | 150 | 213 | 1720 |
| 2,600 | 8.7 | ..... | 5 | ..... | ..... | 145 | 215 | 800 |
| 7,400 | ..... | ..... | Level.... | Level.... | ..... | 145 | 219 | 1160 |
| 5,000 | ..... | 1 | ..... | 3 | ..... | 148 | 222 | 880 |
| 5,000 | ..... | 1.6 | ..... | 5 | ..... | 153 | 225 | 600 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 153 | 228 | 320 |
| 5,000 | ..... | 2.5 | ..... | 7 | ..... | 160 | 231 | 40 |
| 8,500 | ..... | ..... | Level.... | Level.... | ..... | 160 | 235 | 1500 |
| 1,500 | ..... | 3.5 | ..... | 8 | ..... | 168 | 236 | 1240 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 168 | 239 | 960 |
| 5,000 | ..... | 0.7 | ..... | 2 | ..... | 165 | 242 | 680 |
| 2,800 | ..... | ..... | Level.... | Level.... | ..... | 165 | 243 | 1720 |
| 2,200 | ..... | 2.4 | ..... | 3 | ..... | 168 | 245 | 400 |
| 3,000 | ..... | ..... | Level.... | Level.... | ..... | 168 | 246 | 1640 |
| 2,000 | ..... | 4.4 | ..... | 5 | ..... | 173 | 248 | 120 |
| 2,000 | 2.6 | ..... | 3 | ..... | ..... | 170 | 249 | 360 |
| 3,000 | ..... | 1.7 | ..... | 3 | ..... | 178 | 250 | 1600 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 178 | 253 | 1320 |
| 2,500 | ..... | 9.1 | ..... | 13 | ..... | 186 | 255 | 275 |
| 2,534 | ..... | ..... | Level.... | Level.... | ..... | 186 | 256 | 1051 |
| 5,000 | ..... | 0.7 | ..... | 2 | ..... | 188 | 259 | 770 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 188 | 262 | 494 |
| 5,600 | ..... | 8.9 | ..... | 11 | ..... | 199 | 265 | 214 |
| 1,700 | ..... | ..... | Level.... | Level.... | ..... | 199 | 266 | 150 |
| 1,100 | 48.6 | ..... | 25 | ..... | ..... | 174 | 266 | 1250 |
| 1,100 | ..... | 25.6 | ..... | 16 | ..... | 190 | 267 | 590 |
| 1,100 | ..... | ..... | Level.... | Level.... | ..... | 190 | 267 | 1690 |
| 2,000 | ..... | 7.9 | ..... | 9 | ..... | 199 | 269 | 170 |
| 5,300 | ..... | ..... | Level.... | Level.... | ..... | 199 | 272 | 190 |
| 1,500 | 24.6 | ..... | 21 | ..... | ..... | 178 | 272 | 1690 |
| 1,200 | ..... | ..... | Level.... | Level.... | ..... | 178 | 273 | 1130 |

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# TABLE OF GRADIENTS.

## FIFTH DIVISION.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. | |
|---|---|---|---|---|---|---|---|---|
| 600 | ..... | 23.4 | ..... | 8 | ..... | 186 | 273 | 1730 |
| 3,000 | 6.4 | ..... | 11 | ..... | ..... | 175 | 275 | 1210 |
| 1,400 | ..... | 12.6 | ..... | 10 | ..... | 185 | 276 | 850 |
| 2,100 | ..... | ..... | Level.... | Level.... | ..... | 185 | 277 | 1190 |
| 1,100 | 20.8 | ..... | 13 | ..... | ..... | 172 | 278 | 530 |
| 2,100 | ..... | ..... | Level.... | Level.... | ..... | 172 | 279 | 870 |
| 3,100 | ..... | 10.2 | ..... | 18 | ..... | 190 | 281 | 450 |
| 5,000 | ..... | ..... | Level.... | Level.... | ..... | 190 | 284 | 170 |
| 1,000 | ..... | 17.6 | ..... | 10 | ..... | 200 | 284 | 1170 |
| 5,600 | ..... | ..... | Level.... | Level.... | ..... | 200 | 287 | 1490 |
| 1,700 | ..... | 5.2 | ..... | 5 | ..... | 205 | 288 | 1430 |
| 1,600 | 11 | ..... | 10 | ..... | ..... | 195 | 289 | 1270 |
| 2,800 | ..... | ..... | Level.... | Level.... | ..... | 195 | 291 | 550 |
| 1,200 | 10.2 | ..... | 7 | ..... | ..... | 188 | 291 | 1750 |
| 2,700 | ..... | ..... | Level.... | Level.... | ..... | 188 | 293 | 930 |
| 2,100 | ..... | 5.9 | ..... | 7 | ..... | 195 | 294 | 1270 |
| 3,900 | ..... | ..... | Level.... | Level.... | ..... | 195 | 296 | 1650 |
| 1,300 | ..... | 6.7 | ..... | 5 | ..... | 200 | 297 | 1190 |
| 2,000 | ..... | ..... | Level.... | Level.... | ..... | 200 | 298 | 1430 |
| 1,000 | 17.6 | ..... | 10 | ..... | ..... | 190 | 299 | 670 |
| 9,700 | ..... | ..... | Level.... | Level.... | ..... | 190 | 304 | 1570 |
| 700 | ..... | 10 | ..... | 4 | ..... | 194 | 305 | 510 |
| 400 | ..... | ..... | Level.... | Level.... | ..... | 194 | 305 | 910 |
| 1,100 | 14.4 | ..... | 9 | ..... | ..... | 185 | 306 | 250 |
| 1,100 | ..... | 8 | ..... | 5 | ..... | 190 | 306 | 1350 |
| 1,400 | 12.5 | ..... | 10 | ..... | ..... | 180 | 307 | 990 |
| 1,800 | ..... | 14.7 | ..... | 15 | ..... | 195 | 308 | 1030 |
| 1,100 | ..... | 8 | ..... | 5 | ..... | 200 | 309 | 370 |
| 2,400 | ..... | ..... | Level.... | Level.... | ..... | 200 | 310 | 1010 |
| 1,400 | 12.5 | ..... | 10 | ..... | ..... | 190 | 311 | 650 |
| 1,400 | 31.4 | ..... | 25 | ..... | ..... | 165 | 312 | 290 |
| 1,800 | ..... | ..... | Level.... | Level.... | ..... | 165 | 313 | 330 |
| 400 | ..... | 22 | ..... | 5 | ..... | 170 | 313 | 730 |
| 400 | ..... | ..... | Level.... | Level.... | ..... | 170 | 313 | 1130 |
| 1,500 | 52.8 | ..... | 45 | ..... | ..... | 125 | 314 | 870 |
| 800 | ..... | ..... | Level.... | Level.... | ..... | 125 | 314 | 1670 |
| 1,500 | ..... | 15.2 | ..... | 13 | ..... | 138 | 315 | 1410 |
| 700 | 32.7 | ..... | 13 | ..... | ..... | 125 | 316 | 350 |
| 700 | ..... | ..... | Level.... | Level.... | ..... | 125 | 316 | 1050 |
| 2,000 | 30.8 | ..... | 35 | ..... | ..... | 90 | 317 | 1290 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 90 | 318 | 30 |
| 1,900 | ..... | 48.4 | ..... | 50 | ..... | 140 | 319 | 170 |
| 600 | ..... | ..... | Level.... | Level.... | ..... | 140 | 319 | 770 |
| 1,300 | 54.1 | ..... | 40 | ..... | ..... | 100 | 320 | 310 |
| 700 | ..... | ..... | Level.... | Level.... | ..... | 100 | 320 | 1010 |
| 2,400 | ..... | 29.3 | ..... | 40 | ..... | 140 | 321 | 1650 |
| 700 | ..... | ..... | Level.... | Level.... | ..... | 140 | 322 | 590 |
| 1,000 | ..... | 33.6 | ..... | 21 | ..... | 161 | 322 | 1590 |
| 3,300 | ..... | ..... | Level.... | Level.... | ..... | 161 | 324 | 1370 |
| 2,200 | 48 | ..... | 6 | ..... | ..... | 155 | 326 | 50 |
| 1,600 | ..... | ..... | Level.... | Level.... | ..... | 155 | 326 | 1650 |
| 800 | ..... | 44 | ..... | 20 | ..... | 175 | 327 | 690 |

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# TABLE OF GRADIENTS.

## FIFTH DIVISION—Continued.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. |
|---|---|---|---|---|---|---|---|
| 1,800 | ..... | ..... | Level.... | Level.... | ..... | 175 | 328 730 |
| 2,000 | 4.4 | ..... | 5 | ..... | ..... | 170 | 329 970 |
| 3,300 | ..... | ..... | Level.... | Level.... | ..... | 170 | 331 750 |
| 1,400 | 6.3 | ..... | 5 | ..... | ..... | 165 | 332 390 |
| 1,000 | ..... | 8.8 | ..... | 5 | ..... | 170 | 332 1390 |
| 900 | ..... | ..... | Level.... | Level.... | ..... | 170 | 333 530 |
| 1,200 | 14.6 | ..... | 10 | ..... | ..... | 160 | 333 1730 |
| 5,300 | ..... | ..... | Level.... | Level.... | ..... | 160 | 336 1750 |

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# TABLE OF GRADIENTS.

## SIXTH DIVISION.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. |
|---|---|---|---|---|---|---|---|
| 9,860 | ..... | ..... | Level.... | Level.... | ..... | 160 | 342 990 |
| 2,800 | 15.3 | ..... | 20 | ..... | ..... | 140 | 343 1530 |
| 1,400 | 62.8 | ..... | 50 | ..... | ..... | 90 | 344 1170 |
| 2,000 | ..... | 29 | ..... | 33 | ..... | 123 | 345 1410 |
| 1,200 | ..... | ..... | Level.... | Level.... | ..... | 123 | 346 850 |
| 1,800 | 17.6 | ..... | 18 | ..... | ..... | 105 | 347 890 |
| 1,100 | 24 | ..... | 15 | ..... | ..... | 90 | 348 230 |
| 1,900 | 4.5 | ..... | 5 | ..... | ..... | 85 | 349 370 |
| 1,400 | ..... | 25.1 | ..... | 20 | ..... | 105 | 350 10 |
| 900 | 107.5 | ..... | 55 | ..... | ..... | 50 | 350 910 |
| 1,600 | ..... | 46.2 | ..... | 42 | ..... | 92 | 351 750 |
| 2,000 | ..... | ..... | Level.... | Level.... | ..... | 92 | 352 990 |
| 1,100 | 30.4 | ..... | 19 | ..... | ..... | 78 | 353 230 |
| 1,700 | 13.4 | ..... | 13 | ..... | ..... | 60 | 354 270 |
| 300 | ..... | ..... | Level.... | Level.... | ..... | 60 | 354 570 |
| 1,500 | 50.4 | ..... | 43 | ..... | ..... | 17 | 355 310 |
| 1,500 | 8.2 | ..... | 7 | ..... | ..... | 10 | 356 50 |
| 800 | ..... | ..... | Level.... | Level.... | ..... | 10 | 356 850 |
| 1,000 | ..... | 61.6 | ..... | 25 | ..... | 35 | 357 90 |
| 100 | ..... | ..... | Level.... | Level.... | ..... | 35 | 357 190 |
| 1,200 | 51.3 | ..... | 35 | ..... | ..... | ..... | 357 1390 |
| 1,100 | 40 | ..... | 25 | ..... | 25 | ..... | 358 730 |
| 1,400 | ..... | ..... | Level.... | Level.... | 25 | ..... | 359 370 |
| 1,800 | ..... | 63.5 | ..... | 65 | ..... | 40 | 360 410 |
| 2,400 | ..... | ..... | Level.... | Level.... | ..... | 40 | 361 1050 |
| 1,500 | ..... | 70.4 | ..... | 60 | ..... | 100 | 362 790 |
| 700 | ..... | ..... | Level.... | Level.... | ..... | 100 | 362 1490 |
| 1,700 | ..... | 36.2 | ..... | 35 | ..... | 135 | 363 1430 |
| 8,880 | ..... | ..... | Level.... | Level.... | ..... | 135 | 366 30 |
| 1,000 | 17.60 | ..... | 10 | ..... | ..... | 125 | 366 1030 |
| 1,200 | ..... | ..... | Level.... | Level.... | ..... | 125 | 367 470 |
| 1,700 | 25.8 | ..... | 25 | ..... | ..... | 100 | 368 410 |
| 300 | ..... | ..... | Level.... | Level.... | ..... | 100 | 368 710 |
| 1,000 | ..... | 26.4 | ..... | 15 | ..... | 115 | 368 1710 |
| 200 | ..... | ..... | Level.... | Level.... | ..... | 115 | 369 150 |
| 1,000 | 61.6 | ..... | 35 | ..... | ..... | 80 | 369 1150 |
| 2,000 | ..... | 33.4 | ..... | 38 | ..... | 118 | 370 1390 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 118 | 371 130 |
| 1,000 | 14 | ..... | 8 | ..... | ..... | 110 | 371 1130 |
| 1,100 | ..... | 33 | ..... | 20 | ..... | 130 | 372 470 |
| 1,460 | 6.2 | ..... | 5 | ..... | ..... | 125 | 373 110 |
| 900 | 23.4 | ..... | 12 | ..... | ..... | 113 | 373 1010 |
| 1,000 | ..... | ..... | Level.... | Level.... | ..... | 113 | 374 250 |
| 1,700 | ..... | 38.1 | ..... | 32 | ..... | 145 | 375 190 |
| 1,400 | ..... | 6.2 | ..... | 5 | ..... | 150 | 375 1690 |
| 1,400 | ..... | ..... | Level.... | Level.... | ..... | 150 | 376 1230 |
| 3,000 | 64.5 | ..... | 110 | ..... | ..... | 40 | 378 710 |
| 700 | ..... | 62.8 | ..... | 25 | ..... | 65 | 378 1410 |
| 1,100 | 22 | ..... | 15 | ..... | ..... | 50 | 379 750 |
| 800 | ..... | 55 | ..... | 25 | ..... | 75 | 379 1550 |
| 1,400 | ..... | ..... | Level.... | Level.... | ..... | 75 | 380 1190 |
| 1,600 | 27.5 | ..... | 25 | ..... | ..... | 50 | 381 1630 |
| 1,700 | ..... | 67.3 | ..... | 65 | ..... | 115 | 382 970 |

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# TABLE OF GRADIENTS.

## SIXTH DIVISION—Continued.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. |
|---|---|---|---|---|---|---|---|
| 700 | 37.7 | ..... | 15 | ..... | ..... | 100 | 382 1670 |
| 1,900 | ..... | ..... | Level.... | Level.... | ..... | 100 | 384 50 |
| 800 | ..... | 61.6 | ..... | 28 | ..... | 128 | 384 850 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 128 | 384 1350 |
| 800 | 33 | ..... | 15 | ..... | ..... | 113 | 385 390 |
| 1,600 | ..... | 40.7 | ..... | 37 | ..... | 150 | 386 280 |
| 2,000 | ..... | 16.7 | ..... | 19 | ..... | 169 | 387 470 |
| 2,200 | ..... | ..... | Level.... | Level.... | ..... | 169 | 388 910 |
| 1,400 | ..... | 16.8 | ..... | 13 | ..... | 182 | 389 550 |
| 1,400 | ..... | ..... | Level.... | Level.... | ..... | 182 | 390 190 |
| 5,000 | ..... | 4.5 | ..... | 13 | ..... | 195 | 392 1670 |
| 5,000 | ..... | 2.8 | ..... | 8 | ..... | 203 | 395 1390 |
| 5,000 | ..... | 3.5 | ..... | 10 | ..... | 213 | 398 1110 |
| 7,300 | ..... | ..... | Level.... | Level.... | ..... | 213 | 402 1370 |

Ex.—4

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# TABLE OF GRADIENTS.

## SEVENTH DIVISION.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. |
|---|---|---|---|---|---|---|---|
| 1,800 | 97.7 | ..... | 100 | ..... | ..... | 118 | 403 1410 |
| 900 | ..... | 48.8 | ..... | 25 | ..... | 138 | 404 550 |
| 700 | 32.7 | ..... | 18 | ..... | ..... | 125 | 404 1250 |
| 1,000 | ..... | ..... | Level.... | Level.... | ..... | 125 | 405 490 |
| 800 | 110 | ..... | 50 | ..... | ..... | 75 | 405 1290 |
| 800 | ..... | ..... | Level .... | Level.... | ..... | 75 | 405 1690 |
| 1,500 | ..... | 88 | ..... | 75 | ..... | 150 | 406 1330 |
| 900 | 88 | ..... | 75 | ..... | ..... | 75 | 407 470 |
| 200 | ..... | ..... | Level.... | Level.... | ..... | 75 | 407 670 |
| 1,100 | ..... | 122 | ..... | 70 | ..... | 145 | 408 10 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 145 | 408 510 |
| 1,000 | 123 | ..... | 70 | ..... | ..... | 75 | 408 1510 |
| 200 | ..... | ..... | Level.... | Level.... | ..... | 75 | 408 1710 |
| 1,100 | ..... | 80 | ..... | 50 | ..... | 125 | 409 1050 |
| 300 | ..... | ..... | Level.... | Level.... | ..... | 125 | 409 1350 |
| 400 | 44 | ..... | 10 | ..... | ..... | 115 | 409 1750 |
| 1,500 | ..... | ..... | Level.... | Level.... | ..... | 115 | 410 1490 |
| 800 | 88 | ..... | 40 | ..... | ..... | 75 | 411 590 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 75 | 411 1030 |
| 2,200 | ..... | 108 | ..... | 135 | ..... | 210 | 412 1470 |
| 800 | ..... | 11 | ..... | 5 | ..... | 215 | 413 510 |
| 2,700 | ..... | ..... | Level.... | Level.... | ..... | 215 | 414 1450 |
| 700 | 37.7 | ..... | 15 | ..... | ..... | 200 | 415 390 |
| 800 | 55 | ..... | 25 | ..... | ..... | 175 | 415 1190 |
| 2,700 | 65.2 | ..... | 100 | ..... | ..... | 75 | 417 370 |
| 300 | ..... | ..... | Level.... | Level.... | ..... | 75 | 417 670 |
| 1,100 | ..... | 64 | ..... | 40 | ..... | 115 | 418 1 |
| 1,100 | 88 | ..... | 55 | ..... | ..... | 60 | 418 1110 |
| 1,400 | ..... | 94.2 | ..... | 75 | ..... | 135 | 419 750 |
| 300 | ..... | ..... | Level.... | Level.... | ..... | 135 | 419 1050 |
| 1,500 | 88 | ..... | 75 | ..... | ..... | 60 | 420 790 |
| 800 | ..... | ..... | Level.... | Level.... | ..... | 60 | 420 1590 |
| 1,600 | ..... | 77 | ..... | 70 | ..... | 130 | 421 1430 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 130 | 422 170 |
| 1,000 | 70.4 | ..... | 40 | ..... | ..... | 90 | 423 1170 |
| 800 | ..... | 55 | ..... | 25 | ..... | 115 | 423 210 |
| 900 | ..... | ..... | Level.... | Level.... | ..... | 115 | 423 910 |
| 1,400 | ..... | 105.6 | ..... | 84 | ..... | 199 | 424 760 |
| 2,700 | ..... | ..... | Level.... | Level.... | ..... | 199 | 425 1690 |
| 1,900 | 3.7 | ..... | 4 | ..... | ..... | 195 | 427 70 |
| 1,800 | 9.7 | ..... | 10 | ..... | ..... | 185 | 428 1150 |
| 2,600 | 16.8 | ..... | 25 | ..... | ..... | 160 | 429 980 |
| 1,800 | 29.2 | ..... | 30 | ..... | ..... | 130 | 430 980 |
| 1,800 | 78.3 | ..... | 75 | ..... | ..... | 55 | 431 1030 |
| 1,200 | 36.6 | ..... | 25 | ..... | ..... | 30 | 432 470 |
| 200 | ..... | ..... | Level.... | Level.... | ..... | 30 | 432 670 |
| 1,500 | ..... | 58.6 | ..... | 50 | ..... | 80 | 433 470 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 80 | 433 970 |
| 1,400 | 87.1 | ..... | 75 | ..... | ..... | 5 | 434 530 |
| 400 | ..... | ..... | Level.... | Level.... | ..... | 5 | 434 930 |
| 900 | ..... | 88 | ..... .... | 45 | ..... | 50 | 435 70 |
| 400 | ..... | ..... | Level.... | Level.... | ..... | 50 | 435 470 |
| 500 | 52.8 | ..... | 15 | ..... | ..... | 35 | 435 970 |

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# TABLE OF GRADIENTS.

## SEVENTH DIVISION—Continued.

| Distances, in yards. | Ascent per mile, in feet. | Descent per mile, in feet. | Ascent, in feet. | Descent, in feet. | Total rise above base line. | Total fall below base line. | Total distance, in miles and yards. | |
|---|---|---|---|---|---|---|---|---|
| 700 | ..... | 62.8 | ..... | 25 | ..... | 60 | 435 | 1690 |
| 1.100 | ..... | 24 | ..... | 15 | ..... | 75 | 436 | 1080 |
| 900 | 78.2 | ..... | 40 | ..... | ..... | 35 | 437 | 170 |
| 300 | ..... | ..... | Level.... | Level.... | ..... | 35 | 437 | 470 |
| 1,000 | ..... | 132 | ..... | 75 | ..... | 110 | 437 | 1470 |
| 900 | ..... | ..... | Level.... | Level.... | ..... | 110 | 438 | 610 |
| 800 | 110 | ..... | 50 | ..... | ..... | 60 | 438 | 1410 |
| 1.160 | ..... | ..... | Level.... | Level.... | ..... | 60 | 439 | 750 |
| 900 | ..... | 98.8 | ..... | 50 | ..... | 110 | 439 | 1650 |
| 600 | 73.3 | ..... | 25 | ..... | ..... | 85 | 440 | 490 |
| 700 | ..... | 12.5 | ..... | 5 | ..... | 90 | 440 | 1190 |
| 1,300 | 35.1 | ..... | 26 | ..... | ..... | 64 | 441 | 730 |
| 1,700 | ..... | 47.6 | ..... | 46 | ..... | 110 | 442 | 670 |
| 800 | 66 | ..... | 30 | ..... | ..... | 80 | 442 | 1470 |
| 800 | ..... | ..... | Level.... | Level.... | ..... | 80 | 443 | 510 |
| 600 | ..... | 73.3 | ..... | 25 | ..... | 105 | 443 | 1110 |
| 300 | ..... | ..... | Level.... | Level.... | ..... | 105 | 443 | 1410 |
| 1,200 | 89.6 | ..... | 60 | ..... | ..... | 45 | 444 | 850 |
| 1,400 | ..... | ..... | Level.... | Level.... | ..... | 45 | 445 | 490 |
| 900 | ..... | 58.8 | ..... | 30 | ..... | 75 | 445 | 1390 |
| 2,000 | ..... | ..... | Level.... | Level.... | ..... | 75 | 446 | 1630 |
| 1,100 | ..... | 8 | ..... | 5 | ..... | 80 | 447 | 970 |
| 1,000 | ..... | 48 | ..... | 30 | ..... | 110 | 448 | 210 |
| 900 | 19.5 | ..... | 10 | ..... | ..... | 110 | 448 | 1110 |
| 1,600 | ..... | 16.5 | ..... | 15 | ..... | 115 | 449 | 950 |
| 1.200 | ..... | ..... | Level.... | Level.... | ..... | 115 | 450 | 390 |
| 700 | ..... | 37.8 | ..... | 15 | ..... | 130 | 450 | 1090 |
| 600 | ..... | ..... | Level.... | Level.... | ..... | 130 | 450 | 1690 |
| 700 | 12.5 | ..... | 5 | ..... | ..... | 125 | 451 | 630 |
| 800 | ..... | ..... | Level.... | ..... | ..... | 125 | 451 | 1430 |
| 600 | ..... | 40.3 | ..... | 15 | ..... | 140 | 452 | 270 |
| 1,200 | 11.7 | ..... | 8 | ..... | ..... | 132 | 452 | 1470 |
| 1,000 | ..... | 38.7 | ..... | 22 | ..... | 154 | 453 | 710 |
| 700 | 35.2 | ..... | 14 | ..... | ..... | 140 | 453 | 1410 |
| 1,400 | ..... | ..... | Level.... | Level.... | ..... | 140 | 454 | 1050 |
| 1,100 | ..... | 30.4 | ..... | 19 | ..... | 159 | 455 | 390 |
| 1,000 | ..... | ..... | Level.... | Level.... | ..... | 159 | 455 | 1390 |
| 1,000 | 51 | ..... | 29 | ..... | ..... | 130 | 456 | 630 |
| 600 | ..... | ..... | Level.... | Level.... | ..... | 130 | 456 | 1230 |
| 1,100 | ..... | 72 | ..... | 45 | ..... | 175 | 457 | 570 |
| 1,100 | 24 | ..... | 15 | ..... | ..... | 160 | 457 | 1670 |
| 600 | ..... | ..... | Level.... | Level.... | ..... | 160 | 458 | 510 |
| 900 | ..... | 9.7 | ..... | 5 | ..... | 165 | 458 | 1410 |
| 1,700 | 15.5 | ..... | 15 | ..... | ..... | 150 | 459 | 1350 |
| 500 | ..... | ..... | Level.... | Level.... | ..... | 150 | 460 | 90 |
| 1.200 | ..... | 19.6 | ..... | 19 | ..... | 169 | 460 | 1290 |

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# TABLES OF ESTIMATES.

## FIRST DIVISION.

| Number of section. | Clearing and grubbing. | | Excavation and embankment. | | Masonry for bridges. | | Masonry for culverts and sidewalls. | | Bridging. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of rods. | Cost, in dollars. | No. of cub. yds. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of feet. | Cost, in dollars. |
| 1 | 1,280 | 3,840 | 160,000 | 24,000 | 252 | 756 | 174 | 358 | 100 | 3,000 |
| 1 | ..... | ..... | 17,000 | 8,500 | 530 | 2,120 | 252 | 656 | 25 | 125 |
| 1 | ..... | ..... | 11,000 | 11,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 2 | 1,820 | 5,460 | 180,000 | 27,000 | 690 | 2,070 | 806 | 2,418 | 125 | 375 |
| 2 | ..... | ..... | 15,000 | 7,500 | 2,070 | 8,280 | ..... | ..... | 50 | 250 |
| 2 | ..... | ..... | 3,000 | 3,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 3 | 400 | 1,200 | 142,000 | 25,560 | 988 | 3,952 | ..... | ..... | 500 | 15,000 |
| 3 | ..... | ..... | ..... | ..... | 2,730 | 13,650 | ..... | ..... | 500 | 2,500 |
| 3 | ..... | ..... | ..... | ..... | 420 | 1,680 | ..... | ..... | ..... | ..... |
| 4 | 940 | 2,820 | 94,000 | 13,100 | 2,367 | 7,101 | 708 | 1,416 | 180 | 5,400 |
| 4 | ..... | ..... | 12,000 | 12,000 | ..... | ..... | ..... | ..... | 60 | 300 |
| 4 | ..... | ..... | 5,000 | 2,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 5 | 1,500 | 4,500 | 229,000 | 34,350 | 2,628 | 7,884 | 600 | 1,325 | 320 | 9,600 |
| 5 | ..... | ..... | 18,000 | 18,000 | 247 | 1,235 | 1,780 | 3,560 | 90 | 1,800 |
| 5 | ..... | ..... | 7,000 | 3,500 | ..... | ..... | ..... | ..... | 50 | 250 |
| 6 | 1,100 | 3,300 | 154,000 | 27,720 | ..... | ..... | 360 | 720 | 120 | 600 |
| 6 | ..... | ..... | 208,900 | 31,335 | ..... | ..... | 1,332 | 3,330 | ..... | ..... |
| 7 | 1,490 | 4,470 | 88,000 | 14,080 | 3,640 | 10,920 | 156 | 312 | 890 | 2,670 |
| 7 | ..... | ..... | 94,000 | 11,280 | ..... | ..... | ..... | ..... | 25 | 125 |
| 7 | ..... | ..... | 6,000 | 6,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 7 | ..... | ..... | 90,000 | 13,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 8 | 600 | 1,800 | 160,000 | 24,000 | 1,293 | 3,879 | 104 | 208 | 180 | 5,400 |
| 8 | ..... | ..... | 13,000 | 13,000 | ..... | ..... | ..... | ..... | 30 | 150 |
| 9 | 750 | 2,250 | 335,000 | 56,950 | 768 | 2,304 | 295 | 590 | 75 | 375 |
| 9 | ..... | ..... | 12,000 | 9,000 | 225 | 563 | ..... | ..... | ..... | ..... |
| 9 | ..... | ..... | 5,000 | 5,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 9 | ..... | ..... | 17,000 | 4,100 | ..... | ..... | ..... | ..... | ..... | ..... |
| 10 | 1,280 | 3,840 | 211,000 | 33,760 | 1,467 | 4,401 | 248 | 496 | 60 | 300 |
| 10 | ..... | ..... | 14,000 | 10,500 | 426 | 1,065 | ..... | ..... | ..... | ..... |
| 10 | ..... | ..... | 11,000 | 11,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 11 | 1,700 | 5,100 | 190,000 | 34,200 | 783 | 2,349 | 220 | 440 | 375 | 11,350 |
| 11 | ..... | ..... | 19,000 | 2,850 | 786 | 1,572 | ..... | ..... | ..... | ..... |
| 11 | ..... | ..... | 6,000 | 6,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 11 | ..... | ..... | 7,500 | 3,750 | ..... | ..... | ..... | ..... | ..... | ..... |
| 12 | 1,075 | 3,225 | 214,000 | 32,100 | 756 | 2,268 | 960 | 1,920 | 240 | 7,200 |
| 12 | ..... | ..... | 6,000 | 4,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 13 | 960 | 2,880 | 124,900 | 18,735 | 321 | 963 | 480 | 960 | 30 | 450 |
| Total cost. | | 44,685 | ..... | 563,370 | ..... | 79,012 | ..... | 18,709 | ..... | 67,220 |

| | |
|---|---|
| Total cost of clearing and grubbing | $44,685 |
| Do.....excavation and embankment | 563,370 |
| Do.....masonry | 97,721 |
| Do.....bridging | 67,220 |
| Total cost for grading and bridging | 772,996 |

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# TABLES OF ESTIMATES.

## SECOND DIVISION.

| Number of section. | Clearing and grubbing. | | Excavation and embankment. | | Masonry for bridges. | | Masonry for culverts and side-walls. | | Bridging. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of rods. | Cost, in dollars. | No. of cub. yds. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of feet. | Cost, in dollars. |
| 1 | 1,300 | 3,900 | 145,000 | 21,750 | 140 | 560 | 160 | 320 | 250 | 7,500 |
| 1 | ..... | ..... | 50,000 | 9,000 | 321 | 963 | ..... | ..... | ..... | ..... |
| 1 | ..... | ..... | 15,000 | 15,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 2 | 1,560 | 4,680 | 200,000 | 32,000 | 196 | 784 | 1,700 | 3,520 | 275 | 8,250 |
| 2 | ..... | ..... | 19,000 | 19,000 | 633 | 1,899 | ..... | ..... | ..... | ..... |
| 2 | ..... | ..... | 15,000 | 7,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 2 | ..... | ..... | 8,000 | 2,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 3 | 1,490 | 4,470 | 311,000 | 55,980 | 2,358 | 9,432 | 6,470 | 12,940 | 1,725 | 51,750 |
| 3 | ..... | ..... | 30,000 | 30,000 | 2,432 | 7,296 | ..... | ..... | ..... | ..... |
| 3 | ..... | ..... | 27,430 | 13,715 | ..... | ..... | ..... | ..... | ..... | ..... |
| 4 | 1,820 | 5,460 | 97,000 | 14,550 | 267 | 801 | 1,868 | 3,736 | 100 | 3,000 |
| 4 | ..... | ..... | 135,000 | 24,300 | ..... | ..... | ..... | ..... | ..... | ..... |
| 4 | ..... | ..... | 30,000 | 6,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 4 | ..... | ..... | 11,000 | 11,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 5 | 1,750 | 5,250 | 230,000 | 34,500 | 6,220 | 24,880 | 117 | 234 | 2,300 | 69,000 |
| 5 | ..... | ..... | 75,000 | 13,500 | 4,662 | 13,986 | ..... | ..... | ..... | ..... |
| 5 | ..... | ..... | 6,440 | 1,288 | ..... | ..... | ..... | ..... | ..... | ..... |
| 5 | ..... | ..... | 17,000 | 17,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 6 | 1,680 | 5,040 | 455,894 | 68,384 | 1,860 | 5,580 | 390 | 780 | 1,000 | 30,000 |
| 6 | ..... | ..... | 50,000 | 9,000 | 1,142 | 4,568 | ..... | ..... | 50 | 500 |
| 6 | ..... | ..... | 15,000 | 15,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 6 | ..... | ..... | 9,000 | 4,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 7 | 1,820 | 5,460 | 270,000 | 40,500 | 1,425 | 4,275 | 97 | 194 | 525 | 15,750 |
| 7 | ..... | ..... | 13,000 | 13,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 7 | ..... | ..... | 18,000 | 4,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 8 | 2,300 | 6,900 | 265,000 | 39,750 | 528 | 1,584 | 143 | 286 | 40 | 1,200 |
| 8 | ..... | ..... | 48,000 | 8,640 | ..... | ..... | ..... | ..... | 20 | 200 |
| 8 | ..... | ..... | 28,000 | 6,900 | ..... | ..... | ..... | ..... | ..... | ..... |
| 8 | ..... | ..... | 11,000 | 11,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 9 | 1,960 | 5,880 | 175,000 | 26,250 | 504 | 1,512 | 321 | 642 | 60 | 600 |
| 9 | ..... | ..... | 5,000 | 2,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 9 | ..... | ..... | 8,000 | 8,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 10 | 3,000 | 9,000 | 475,000 | 70,250 | ..... | ..... | ..... | ..... | ..... | ..... |
| 10 | ..... | ..... | 95,000 | 17,100 | 1,353 | 5,412 | 1,500 | 3,000 | 580 | 17,400 |
| 10 | ..... | ..... | 7,500 | 7,500 | 1,755 | 5,265 | ..... | ..... | 100 | 1,000 |
| Total cost. | | 56,040 | ..... | 680,857 | ..... | 88,797 | ..... | 25,652 | ..... | 206,150 |

| | |
|---|---|
| Total cost for clearing and grubbing ..... | $56,040 |
| Do.....excavation and embankment ..... | 680,857 |
| Do.....masonry ..... | 114,449 |
| Do.....bridging ..... | 206,150 |
| Total cost for grading and bridging ..... | 1,057,496 |

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# TABLES OF ESTIMATES.

## THIRD DIVISION.

| Number of section. | Clearing and grubbing. | | Excavation and embankment. | | Masonry for bridges. | | Masonry for culverts and side-walls. | | Bridging. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of rods. | Cost, in dollars. | No. of cub. yds. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of feet. | Cost, in dollars. |
| 1 | 20,800 | 62,400 | 1,193,075 | 143,169 | 1,900 | 7,600 | 170 | 680 | 225 | 6.750 |
| 1 | ..... | ..... | 1,193,075 | 178,961 | 840 | 4,200 | ..... | ..... | 560 | 5,600 |
| Total cost. | | 62,400 | ..... | 322,130 | ..... | 11,800 | ..... | 680 | ..... | 12,350 |

| | |
|---|---|
| Total cost for clearing and grading ..... | $62,400 |
| Do.....excavation and embankment ..... | 322,130 |
| Do.....masonry ..... | 18,480 |
| Do.....bridging ..... | 12,350 |
| Total cost for grading and bridging..... | 415,360 |

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# TABLES OF ESTIMATES.

## FOURTH DIVISION.

| Number of section. | Clearing and grubbing. | | Excavation and embankment. | | Masonry for bridges. | | Masonry for culverts and side-walls. | | Bridging. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of rods. | Cost, in dollars. | No. of cub. yds. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of feet. | Cost, in dollars. |
| 1 | 6,400 | 19,200 | 194,200 | 23,304 | 801 | 3,204 | ..... | ..... | 150 | 1,500 |
| 1 | ..... | ..... | ..... | ..... | 264 | 1,320 | ..... | ..... | 100 | 3,000 |
| 2 | 4,040 | 12,120 | 292,800 | 85,186 | 639 | 2,556 | ..... | ..... | 160 | 1,600 |
| 2 | ..... | ..... | ..... | ..... | 378 | 1,890 | ..... | ..... | ..... | ..... |
| 3 | 3,840 | 11,520 | 248,000 | 29,760 | 2,615 | 13,075 | 117 | 351 | 1,875 | 56,250 |
| 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Draw | 5,000 |
| 3 | ..... | ..... | 96,664 | 14,499 | 603 | 2,412 | ..... | ..... | 2,800 | 14,000 |
| 4 | 4,500 | 18,500 | 460,000 | 55,200 | 840 | 2,520 | ..... | ..... | 310 | 9,300 |
| 4 | ..... | ..... | 156,600 | 23,490 | 390 | 1,560 | ..... | ..... | 190 | 1,900 |
| 4 | ..... | ..... | 1,000 | 1,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| Total cost. | 56,340 | | ..... | 182,389 | ..... | 28,537 | ..... | 351 | ..... | 92,550 |

| | |
|---|---|
| Total cost for clearing and grubbing ..... | $56,340 |
| Do .....excavation and embankment ..... | 182,389 |
| Do.....masonry ..... | 28,888 |
| Do.....bridging ..... | 92,550 |
| Total cost for grading and bridging ..... | 360,167 |

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# TABLES OF ESTIMATES.

## FIFTH DIVISION.

| Number of section. | Clearing and grubbing. | | Excavation and embankment. | | Masonry for bridges. | | Masonry for culverts and side-walls. | | Bridging. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of rods. | Cost, in dollars. | No. of cub. yds. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of feet. | Cost, in dollars. |
| 1 | 2,850 | 8,550 | 306,575 | 45,986 | 2,616 | 7,848 | 722 | 1,444 | 295 | 8,850 |
| 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 110 | 1,100 |
| 2 | 2,880 | 8,640 | 232,088 | 34,813 | 1,842 | 9,210 | 304 | 608 | 550 | 16,500 |
| 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Draw | 5,000 |
| 2 | ..... | ..... | ..... | ..... | 982 | 2,946 | ..... | ..... | 150 | 1,500 |
| 3 | 3,200 | 9,600 | 240,124 | 36,186 | 1,134 | 3,372 | 96 | 240 | 435 | 13,050 |
| 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 80 | 800 |
| 4 | 3,500 | 10,500 | 327,109 | 49,066 | 2,088 | 6,264 | 795 | 2,337 | 140 | 4,200 |
| 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 210 | 2,100 |
| 5 | 4,100 | 12,300 | 382,043 | 57,306 | 1,560 | 4,680 | 815 | 784 | 260 | 7,800 |
| 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 80 | 800 |
| Total cost. | | 49,590 | ..... | 223,357 | ..... | 34,320 | ..... | 5,413 | ..... | 61,700 |

| | |
|---|---|
| Total cost for clearing and grubbing ..... | $49,590 |
| Do.....excavation and embankment ..... | 223,357 |
| Do.....masonry ..... | 39,733 |
| Do.....bridging ..... | 61,700 |
| Total cost for grading and bridging ..... | 374,380 |

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# TABLES OF ESTIMATES.

## SIXTH DIVISION.

| Number of section. | Clearing and grubbing. | | Excavation and embankment. | | Masonry for bridges. | | Masonry for culverts and side-walls. | | Bridging. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of rods. | Cost, in dollars. | No. of cub. yds. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of feet. | Cost, in dollars. |
| 1 | 3,950 | 11,850 | 389,782 | 58,467 | 9,361 | 46,805 | 641 | 1,282 | 3,100 | 93,000 |
| 1 | ..... | ..... | 120,605 | 21,708 | 140 | 560 | ..... | ..... | Draw | 5,000 |
| 1 | ..... | ..... | 70,658 | 14,131 | 2,229 | 6,687 | ..... | ..... | 210 | 2,100 |
| 1 | ..... | ..... | 10,500 | 10,500 | ..... | ..... | ..... | ..... | ..... | ..... |
| 1 | ..... | ..... | 12,000 | 6,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 2 | 3,500 | 10,500 | 193,776 | 29,066 | 887 | 4,185 | 720 | 1,800 | 890 | 2,670 |
| 2 | ..... | ..... | 122,677 | 21,038 | 2,610 | 7,830 | ..... | ..... | 120 | 1,200 |
| 2 | ..... | ..... | 60,686 | 12,137 | ..... | ..... | ..... | ..... | 1,000 | 5,000 |
| 2 | ..... | ..... | 8,000 | 1,000 | ..... | ..... | ..... | ..... | ..... | ..... |
| 4 | 3,500 | 10,500 | 215,891 | 34,542 | 2,997 | 8,991 | 595 | 1,428 | 600 | 18,000 |
| 4 | ..... | ..... | 101,250 | 15,187 | ..... | ..... | ..... | ..... | 125 | 1,250 |
| 4 | 2,600 | 7,800 | 220,024 | 33,036 | 2,532 | 7,596 | 1,626 | 4,065 | 120 | 3,600 |
| 4 | ..... | ..... | 174,634 | 29,687 | ..... | ..... | ..... | ..... | 100 | 1,000 |
| 5 | 4,600 | 13,800 | 289,358 | 43,403 | 1,140 | 5,700 | 571 | 1,428 | 1,675 | 50,250 |
| 5 | ..... | ..... | 120,090 | 10,816 | 460 | 1,840 | 320 | 640 | Draw | 5,000 |
| 5 | ..... | ..... | ..... | ..... | 1,530 | 4,590 | ..... | ..... | 1,100 | 5,500 |
| Total cost. | 54,450 | | 340,718 | | 94,784 | | 10,643 | | 193,570 | |

| | |
|---|---|
| Total cost of clearing and grubbing..... | $54,450 |
| Do.....excavation and embankment..... | 340,718 |
| Do.....masonry ..... | 105,427 |
| Do.....bridging..... | 193,570 |
| Total cost for grading and bridging..... | 694,165 |

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# TABLES OF ESTIMATES.

## SEVENTH DIVISION.

| Number of section. | Clearing and grubbing. | | Excavation and embankment. | | Masonry for bridges. | | Masonry for culverts and side-walls. | | Bridging. | |
|---|---|---|---|---|---|---|---|---|---|---|
| | No. of rods. | Cost, in dollars. | No. of cub. yds. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of perches. | Cost, in dollars. | No. of feet. | Cost, in dollars. |
| 1 | 1,750 | 5,250 | 540,146 | 81,021 | 4,037 | 14,811 | 711 | 1,788 | 100 | 3,000 |
| 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 120 | 1,200 |
| 2 | 1,700 | 5,100 | 350,498 | 52,574 | 4,907 | 14,721 | 1,564 | 3,906 | 210 | 6,300 |
| 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 70 | 700 |
| 3 | 1,700 | 5,100 | 283,225 | 42,483 | 2,113 | 6,339 | 1,704 | 4,260 | 100 | 3,000 |
| 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 45 | 450 |
| 4 | 1,700 | 5,100 | 668,540 | 100,281 | 911 | 5,466 | 1,166 | 3,498 | 530 | 15,900 |
| 4 | ..... | ..... | ..... | ..... | 4,050 | 14,175 | ..... | ..... | Draw | 5,000 |
| 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,270 | 6,350 |
| 5 | 1,600 | 4,800 | 146,486 | 24,802 | 428 | 1,712 | 284 | 852 | 100 | 3,000 |
| 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 20 | 200 |
| 6 | 2,200 | 6,600 | 337,746 | 50,661 | 3,471 | 11,648 | 866 | 2,165 | 100 | 2,000 |
| 6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 60 | 600 |
| 7 | 2,100 | 6,300 | 248,406 | 37,260 | 2,181 | 7,635 | 848 | 2,120 | 140 | 4,100 |
| 7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 100 | 1,000 |
| 8 | 2,240 | 6,720 | 244,808 | 36,701 | 2,307 | 8,076 | 848 | 2,120 | 200 | 6,000 |
| 8 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 260 | 2,600 |
| 9 | 2,240 | 6,720 | 198,460 | 29,017 | 1,008 | 3,528 | 750 | 1,875 | 250 | 7,500 |
| 9 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 60 | 600 |
| Total cost. | | 51,690 | ..... | 454,800 | ..... | 88,111 | ..... | 22,584 | ..... | 69,500 |

| | |
|---|---|
| Total cost for clearing and grubbing ..... | $51,690 |
| Do.....excavation and embankment..... | 454,800 |
| Do.....masonry ..... | 110,695 |
| Do.....bridging ..... | 69,500 |
| Total cost for grading and bridging..... | 686,685 |

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*Aggregate cost of construction.*

| No. of division. | Description of work. | Amount. |
|---|---|---|
| 1 | Clearing and grubbing, grading, masonry, and bridging | $772,996 |
| 2 | Do.....do.....do.....do | 1,057,496 |
| 3 | Do.....do.....do.....do | 415,360 |
| 4 | Do.....do.....do.....do | 360,167 |
| 5 | Do.....do.....do.....do | 374,380 |
| 6 | Do.....do.....do.....do | 694,165 |
| 7 | Do.....do.....do.....do | 686,685 |
| Cost of superstructure, with iron rail, (65 pounds per yard,) with necessary sidings and switches, &c.—460¾ miles, at $7,500 per mile | | 3,455,625 |
| Cost of engineer department and contingencies | | 500,000 |
| | | 8,316,874 |

As the cost of construction of depots, station and engine-houses, workshops, &c., must depend upon the nature and extent of the business on the road, no provision has been made for them in the above estimate.

The calculations have been made for a road-bed 26 feet wide.

Respectfully submitted:

JOSHUA BARNEY.

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32d CONGRESS,
1st Session.

[SENATE.]

Ex. Doc.
No. 50.

# REPORTS

OF THE

# SECRETARY OF THE NAVY

AND THE

# POSTMASTER GENERAL,

COMMUNICATING, IN COMPLIANCE WITH A RESOLUTION OF THE SENATE, INFORMATION IN RELATION TO THE CONTRACTS FOR THE TRANSPORTATION OF THE MAILS, BY STEAMSHIPS, BETWEEN NEW YORK AND CALIFORNIA.

---

WASHINGTON:
PRINTED BY A. BOYD HAMILTON.
1852.

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# REPORT

OF

# THE SECRETARY OF THE NAVY,

COMMUNICATING,

*In compliance with a resolution of the Senate, information in relation to contracts for the transportation of the mails by steamships between New York and California.*

March 23, 1852.
Referred to the Committee on the Post Office and Post Roads, and ordered to be printed.

Navy Department,
*March* 20, 1852.

Sir: I have the honor to acknowledge the receipt of the resolution of the Senate adopted on the 4th instant, calling upon the Secretary of the Navy and Postmaster General for "copies of all the contracts originally made and at present existing, for the transportation of the mails between New York and California by steamships, on the Atlantic and Pacific oceans, and all the information they possess in regard thereto," &c., &c.

In reply to so much of said resolution as pertains to this department, I respectfully state, that under the act of 3d March, 1847, contracts were made with A. G. Sloo, of the city of Cincinnati, State of Ohio, for the transportation of the mail from New York to New Orleans, touching at Chaleston, (if practicable) Savannah and Havana, and from the latter port to Chagres; and with Arnold Harris, of the State of Arkansas, for similar service from Panama to Astoria in Oregon, to connect with the mail from Havana to Chagres across the Isthmus. These are the "contracts originally made" with this department, for the transportation of the mails between New York and California by steamships, on the Atlantic and Pacific oceans, copies of which were furnished under a resolution of the Senate of the 27th of May, 1850, and are embraced in a report of the Committee on the Post Office and Post Poads, made at the first session of the 31st Congress (Senate Rep. No. 202,) and to which I beg leave to refer, for the terms and stipulations at length.—(No. 1.)

The contractor for the New Orleans and Chagres line transferred and set over his contract to George Law, Marshall O. Roberts, and Bowers McIlvaine, of the city of New York, by written assignment, made on the 3d day of September, 1847. This contractor agreed "to establish a line of steamships, to consist of at least five vessels, for the transportation of the United States mail from New York to New Orleans, twice a month, and back, touching at Charleston, (if practicable) Savannah and Havana, and from Havana to Chagres and back, twice a month." Two of the said

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steamships shall be completed and ready for service on or before the first day of October, 1848, shall be of the burden of fifteen hundred tons, and shall be propelled by engines of direct action, similar to the engines of the late United States steamer Missouri, and each of said ships shall be constructed of approved materials, and fastenings upon the dimensions of the late steamship Missouri, as they are known and are of record in the Navy Department of the United States, reserving to the contractor the right of making certain additions in said steamers and their machinery, but not to disregard her general proportions in the steamships so to be constructed; said steamers shall be sheathed with copper of approved quality, &c., to be fitted with iron side-wheels, with good and sufficient boilers, &c.; the boilers and machinery to be of the best quality, and to be so placed below the water-line as to be as far as practicable beyond the reach of cannon shot, and "in strength, capacity, rigging, spars, engines, boilers, and in all other respects whatsoever, are to be similar to the late United States ship Missouri, as far as the alterations above permitted, and a reasonable regard to the nature of the service contemplated, will allow." That should the Secretary of the Navy determine to employ a steamer of not less than six hundred tons burden, for the service between Havana and Chagres, in lieu of one of said five steamers of fifteen hundred tons, then the said A. G. Sloo will construct said steamship of the same material, build and finish, with size, engine and dimensions in proportion (having regard to tonnage) to the above described ships, and shall complete, and have in readiness for service, the two remaining steamships, on or before the 1st day of October, A. D. 1849, to be constructed and fitted in every respect of the burden, capacity, power and description of the two steamships first described; shall perform the service required, and be in full and entire operation on or before the first day of October, A. D. 1849. That each and all of said steamships shall be commanded by an officer of the navy of the United States, not below the grade of lieutenant, to be selected by the said contractor, A. G. Sloo, with the approval and consent of the Secretary of the Navy, and to be accommodated on board thereof, in a manner becoming his rank and station, without charge to the government of the United States. And said A. G. Sloo further agrees to receive on board each of said steamships, and accommodate in a manner suitable to their rank, without charge to the government of the United States, four passed midshipmen of the United States navy, to serve as watch officers, &c. This contract to continue in force for the term of ten years, to commence from the actual commencement of the service specified; and the Secretary of the Navy, for the time being, shall, at any time, have the right to take said steamships for the exclusive use and service of the United States; the proper compensation for the value of the ships when so taken, as aforesaid, to be ascertained by appraisers, to be mutually chosen by the parties to said contract. As a compensation for the mail service under the Sloo contract, the United States, by the Secretary of the Navy, agreed to pay the just and full sum of $290,000 per annum.

No steamship was accepted as built under this contract until the 26th of January, 1850, (No. 5) when, the steamship "Georgia" having been first inspected by officers appointed for the purpose, by the Secretary of the Navy, the assignees were informed that "the government accepts the 'Georgia' for the purposes named in the contract." Another vessel, the "Ohio," built under this contract, had been put upon the line as early as September, 1849, but the inspecting officers having reported the ship as not

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having been coppered, the contract requiring that "said steamers shall be sheathed with copper," the department declined to accept the vessel under the contract. At a still earlier date, in December, 1848, it was proposed, by the assignees, to place upon the route, temporarily, the ocean steamer "Falcon," a vessel inferior to the stipulations of the contract. She was accordingly accepted, the department reserving the right to terminate the arrangement whenever it should think proper to do so. The services of the "Falcon" have not been discontinued. The "Ohio," the first steamship built and offered under the contract, and rejected by the department, as before stated, was finally completed and accepted in January, 1851, and a third vessel, the "Illinois," was offered and accepted on the 30th of September, 1851.

Mail service, on this route, was decided to have commenced with the trips of the "Falcon," 1st of December, 1848.

The contract requiring the mail service of this company in five steamships of a given construction, after the passage of the naval appropriation act of 28th September, 1850, doubts were entertained whether they were entitled to be paid for the service performed, except *pro rata*, according to the number of ships in use.

But the question being referred to the Attorney General, he was of opinion that, by the legal construction of the act, full price should be paid for the service performed, and payment was made accordingly; and the subsequent appropriation act employing similar language, the same construction has been followed, and full payments made, in the same manner as if the whole number of ships had been completed.

There have been but three steamships (the "Georgia," the "Ohio" and the "Illinois") built and accepted under the Sloo contract, which requires five, and the department is not informed as to the intentions of the assignees to complete the number. As to the conformity to the contracts of the vessels actually built, in other respects, reference is made to the letters of the superintending officers and constructor, herewith subjoined. (Nos. 1 & 2.)

Payments have been made to George Law and his associates, assignees of A. G. Sloo, for advances made under the act of 3d August, 1848, and upon certificates of the Postmaster General, of service actually performed under the contract, to the 28th of January, 1852, the date of last payment, amounting in the whole to $941,925 99. (No. 2.) This sum includes as well the advance of one year's mail pay, made by direction of the act last referred to, as compensation for the service actually performed, except one tenth of said advance, which was accounted for and satisfied on the 3d of March, 1851.

It will be recollected that, by the act of Congress of that date, the advances to the several contractors were exempted from interest, except from the passage of the act, and were allowed to be gradually refunded, at the rate of one tenth annually.

The contractor for the Panama and Oregon mail service transferred and assigned over to William H. Aspinwall, of the city of New York, all his right, title, and interest to and under his said contract, by a written assignment, dated the 19th day of November, 1847. The contractor, Arnold Harris, engaged to transport the United States mail, as required by the act of Congress of March 3, 1847, from Panama to Astoria, in the Territory of Oregon, or to such other port in said Territory as the Navy Department may elect, once a month each way, for the term of ten years from the first of

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October, 1848, and to this end to furnish not less than three sea-steamers, two of which shall be of not less than one thousand tons burden, and the other of not less than six hundred tons burden, and all of them to be well constructed, suitable in all respects for the intended service, and to be approved or rejected, each of them, before leaving the port of New York, by competent inspectors, acting under direction of the Navy Department; that he will touch at one or two intermediate points on the coast of said Territory with said steamers aforesaid, when required so to do by the Secretary of the Navy, and that he may touch at such other ports as he may elect, without causing failure in performing the service; that the said line of steamers shall be so constructed as to be easily convertible into war steamers; that the Navy Department shall at any time have the right to take them for the exclusive use and service of the United States, and the proper compensation for the value of the steamers, when so taken by the United States, to be determined by appraisers, to be mutually chosen by the parties; and in consideration of the premises, the United States, by the Secretary of the Navy, promised and agreed to pay to the said Arnold Harris, contractor, or to his assigns, as a compensation for the service stipulated, the full sum of $199,000 per annum.

"This contract shall continue in force for the term of ten years from the first of October, 1848, unless annulled by Congress."

Under this contract, the assignee furnished three sea-steamers, which appear to have been accepted as follows: the California, accepted October 5, 1848; the Panama, November 28, 1848; and the Oregon, December 9, 1848; and it is believed they all sailed from New York before the close of that year.

The mail service, under the Harris contract, was considered as having commenced on the first of October, 1848. (No. 6.) The service for some time from California to Oregon was performed in a sailing-vessel, under an arrangement with the Navy Department, the Postmaster General concurring, made on the 10th June, 1848, the northern terminus being near the mouth of the Kalumet river, (No. 1;) but on the 2d January, 1850, the assignee was required to perform the service as follows: "From Panama to Nasqually, on Puget's sound, in the Territory of Oregon, once a month each way, to stop and deliver and take mails at San Diego, San Francisco, Monterey and Astoria;" and he was informed that "the modifications of the contract acceded to by the Navy Department, on the 10th of June, 1848, will cease after the 10th of July, 1850; and the mail service for the entire distance between Panama and Nasqualla must be performed in sea-steamers, as stipulated in the contract with Arnold Harris, bearing date the 16th day of November, 1847." On the 4th of June, 1850, the assignee submitted a plan for the service northward from San Francisco. (No. 6.) He proposed that Astoria, as originally intended, should be the northern terminus; that the steamers touch at Trinidad bay, and such other intermediate point on the coast as may be determined upon, and that an additional steamer be assigned to the service.

On the 7th of June the assignee, in explanation of his letter of the 4th of that month, refers to the Harris contract as requiring "at least a certain tonnage for specified service, at a fixed compensation;" and says, "the proposition I now make (to increase the number of steamships) does not vary either the service or the compensation. I only offer to increase the tonnage, thus providing a spare boat for contingencies of loss, or accident or neces-

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sary repairs to the others; and this becomes needful from the time you require the service north of San Francisco." (No. 6.) In reply to this proposition, the department informed the assignee that it does not require the service from San Francisco to Oregon to be performed by any particular boat, leaving with him to make the selection. "All that the department requires is, that the service shall be performed by one of the boats which have been already accepted, viz: either the 'Oregon,' the 'California' or the 'Panama.' The department declines to change the order and arrangement set forth in its letter of the 2d of January last."

The application for a change of the northern terminus in Oregon was renewed on the 25th of September, 1850, and a "memorandum" (No. 6) was offered, urging upon the department the acceptance of two additional steamships, the "Tennessee" and the "Columbia;" on the grounds that three steamships were not adequate to the service called for by the contract; that the additional vessels were required to prevent all failure of the mail service; and that when one vessel is hauled off for repairs, another may be ready to to take her place.

In consequence of these representations, the Postmaster General concurring, the Secretary of the Navy decided that the extension of the ocean line north of Astoria is unnecessary, and the assignee was informed that "after the 1st of January, 1851, the mail service to be performed by the Panama and Oregon line of steamers is required to be performed as follows, viz: From Panama to Astoria, in the Territory of Oregon, once a month each way, to stop and deliver and take mails at San Diego, San Francisco and Monterey. The mail service for the entire distance between Panama and Astoria must be performed in sea-steamers, as stipulated in the contract with Arnold Harris."

He was also informed that in consideration of a statement made by the Postmaster General, "the steamships 'Columbia' and 'Tennessee' are accepted, in the same manner and to the same extent as the ships 'Oregon,' 'Panama' and 'California' were accepted. It is, however, to be distinctly understood that the modifications of the contract with Arnold Harris, acceded to by the Navy Department on the 10th of June, 1848, ceased after the 10th of July, 1850, and that the acceptance of the ships 'Columbia' and 'Tennessee' is not to be considered as in any way changing the amount of yearly compensation for the performance of mail service under the contract with Arnold Harris." (No. 6.)

After this arrangement had been entered into, the assignee applied to Congress for additional compensation, and in the navy appropriation act of March 3d, 1851, the Postmaster General was authorized to increase the trips of the Pacific line to semi-monthly; and it was provided that the said increased service on the Pacific side "shall be at a rate not exceeding seventy-five per cent. upon the amount now paid for Pacific service; and to be performed in steamships built according to the specifications and subject to all the clauses of the A. Harris contract beneficial to the United States. And provided further, that the compensation of the semi-monthly service already performed between Panama and California and Oregon, and for such service for the coming year, shall not exceed three-fourths the usual rate at which additional mail service may be ordered under existing laws."

Under this authority of law the assignee of the A. Harris contract has been paid for additional service, as follows:

In addition to the yearly compensation, fifty per centum on that amount,

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from March, 1850, to 9th October, 1850, and seventy-five per centum after the latter date. And an additional contract was entered into with W. H. Aspinwall, assignee as aforesaid, president of the Pacific Mail Steamship Company, to increase the said Pacific line, within one year from the date of said contract—viz: 13th March, 1851—to six steamships, to perform semi-monthly trips "from Panama to Oregon, and from Oregon to Panama, in not more than twenty-five days from point to point," and employ them when said line shall be increased, in transporting the United States and foreign mails from Panama to San Diego, Monterey, San Francisco, and Astoria in Oregon; touching, if practicable, at Scottsville, near the mouth of the Umpqua river, and at such other intermediate port on the coast of Oregon or California as in the opinion of the Postmaster General the public interest may require; and, for the increased service beyond the stipulation of the original contract with the said A. Harris, the Pacific Mail Steamship Company shall be paid by the Secretary of the Navy the sum of $149,250 per annum. The parties reserve the adjustment of the terms for the service on a better route between the two oceans, until such a route is established, and the extent of the change can be ascertained. A copy of the contract for additional service is furnished, hereunto annexed. (No. 2.)

The yearly compensation for mail service on the Pacific and Oregon route is thus increased to the sum of $348,250 per annum.

On the 31st July, 1851, the steamship "Golden Gate" was accepted by the department in the same manner and to the same extent as were the "Columbia" and "Tennessee;" thus completing the number of steamships stipulated for under the two contracts.

It having been found impracticable to include Scottsville in the Pacific and Oregon route, the Pacific Mail Steamship Company was informed, on the 24th of September, 1851, that Umpqua city would be substituted as the office to be supplied by said company, between San Francisco and Astoria, omitting Scottsville from the contract; and a further change was assented to on the 20th December last, viz: to omit San Diego and Monterey from the main Pacific mail line, on condition that those offices shall be regularly supplied by a slower line, and that the mail by the main line be expedited, as proposed, without additional compensation.

Payments have been made to W. H. Aspinwall, as assignee of A. Harris, (No. 2,) for advances under the act of 3d August, 1848, and for mail service performed under the A. Harris contract, and as president of the Pacific Mail Steamship Company, for additional service and semi-monthly trips, under the arrangement authorized by act of March 3, 1851—the last payment having been made on the 26th January, 1852—in all amounting to the sum of $996,661 90.

This sum includes the advance made under the A. Harris contract of one year's mail pay, less one-tenth of said advance, which was accounted for and satisfied on the 3d of March, 1851.

For "the gross amount of money that has been paid under each service; when such contracts commenced; in what sums, and at what periods of time paid; and to whom each payment has been made; whether at such periods as expressed under the terms of said contracts, or otherwise," I respectfully refer to the accompanying report from the Fourth Auditor of the Treasury, (No. 3,) with the remark that payments have been made to the several assignees, at such periods as they were enabled to produce satisfactory certificates, from the Post Office Department, of the service performed.

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No payment was called for by the assignee of the A. Harris contract until January, 1850, fifteen months after the date at which the mail service under that contract had been declared to have commenced.

The act of Congress of the 3d of August, 1848, directed the Secretary of the Navy "to advance to the contractors for said service, or to their assignees, for the purpose of enabling them to finish the steamships contracted for under their respective contracts, the sum of $25,000 per month on each of said ships, after such ship shall have been launched; but the money so advanced, under any one of said contracts, shall not exceed the amount of one year's compensation, stipulated for in such contract—to be secured, in all cases, by a lien on said ships, in such manner as the Secretary of the Navy may require."

The advance having been made to the assignee of the A. Harris contract to the extent of one year's compensation for mail service under the contract, and a lien on said ships having been executed, in which the repayment of the amount advanced was provided for, as follows:

"And if, after the expiration of one year from the first day of October, 1848, or the commencement of the performance of the said service under said contract, being required thereto in writing by the Secretary of the Navy, the said Wm. H. Aspinwall, or some other for him, shall have failed to pay in money, or to refund, out of the compensation for said service for one year, or out of the value of the said vessels, if before the expiration of one year, the same shall be taken into the service of the United States, such outstanding balances due and unpaid, or unrefunded, of such advances as the Secretary of the Navy may have made prior to the 1st day of October, 1849, to the said Aspinwall, assignee as aforesaid, under the said act of Congress, of the 3d of August, 1848, with such interest thereon as may have become legally due to the United States, then the said Wetmore, the trustee in the deed, his executor, administrator or assignee, being required so to do by the Secretary of the Navy of the United States, shall, after advertising for six months, in two newspapers published in the city of New York, the time and place of sale, proceed to sell at public auction for cash, the said steamships, or such of them as may be necessary for the purposes of this deed, and out of the proceeds of said sale shall pay: first, the expenses of executing this trust; secondly, such unsatisfied balances of advances as may be due to the United States, as aforesaid; and the balance, if any, to the said Aspinwall, or his assignee. And upon the further trust, that if, at or before the expiration of one year from the commencement of the said service, the whole amount of advances which may be made under the said act of Congress shall have been repaid or refunded to the United States by the said Aspinwall, either in money or in the said annual compensation, as the same shall fall due under said contract, or in the price of the said vessels, if the same shall be taken into the service of the United States, on valuation, then this lien is to be released:"

Under the impression that Congress designed to cause the advance made to these contractors to be refunded out of the first mail pay which should be earned, my predecessor declined to make payment to this company for the first year's mail service, intending that the moneys thus earned should satisfy such advance. Accordingly, payments were made only for the subsequent service until the passage of the act of March 3, 1851.

This act expressly provides the mode and manner in which the several advances of money made under the act of Congress of August 3, 1848, to

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the different contractors or their assignees, for mail steamship service, is to be refunded, viz: "by deductions from the compensation of each line, ten per cent. annually, reckoning in the adjustment the advances to all of the lines, from the commencement of the performance of their respective mail service.

"*And provided further*, That the said contractors, or their assigns, shall, from and after the passage of this act, pay interest on the balances of said advances still due, at the rate of six per cent. per annum till paid."

It therefore became necessary to restate the account of the assignee of the A. Harris contract, in order to place him in the condition of the other contractors and assignees with regard to the advances of money under the act of Congress of August 3, 1848, and required by the act of the 3d of March, 1851, which was accordingly done.

The assignees of the A. G. Sloo contract called for no payment under that contract for mail service until October, 1850. Not only had there been no portion of the money advanced under the act of August 3, 1848, returned to the United States within the year from the commencement of the mail service under the contract, but there had been a failure to complete the line of steamships stipulated for in the contract, and doubts were entertained, as has been before stated, whether they were entitled to be paid for the service performed, except *pro rata* according to the number of ships built and accepted under the contract.

But the act of September 28, 1850, which declares "that no payment shall be made for said service, except in proportion to the mail service heretofore performed, or that may be hereafter performed, and the Secretary of the Navy is hereby directed to make payment in said proportion only;" and the opinion of the Attorney General, that, by the legal construction of this act, full price should be paid for the service performed, in the same manner as if the whole number of ships required by the contract had been completed,—were considered as conclusive, and payment was accordingly made to the assignees of their first account on the 22d October, 1850: and since, these payments have been made on the production of certificates, given by the Postmaster General, of service performed quarter-yearly, and as nearly as practicable at such periods as are expressed under the terms of the contract.

In reply to those portions of the resolution calling for "the amount of service rendered, and by what vessels?"—"how often they arrive and depart?"—"what time has been, and is now occupied in the carriage of the mails between said ports?"—"whether it two or three of the five ships contracted to be built under said contracts were not so built, but other vessels engaged in independent lines united with the vessels of the government contractors, thus forming one line—each of the parties, however, owning their own vessels, and in that manner answering the terms of the contracts to build said five ships?"—I have to state, that this department has no knowledge on these points. The entire service required being a *mail service*, is under the exclusive control of the Post Office Department, from which the assignees obtain certificates of service performed, and upon which certificates payments are made; but such certificates do not state, in all cases, by what vessels the service is rendered, when they arrive and depart, the time occupied in the carriage of the mails, nor whether any other vessels in independent lines unite with the government contractors.

"Whether other facilities exist for performing the same or a similar ser-

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vice; and if other propositions have been made, and upon what terms, to perform said service, and within what periods of time?"

The facilities for performing a mail service between New York and California are in proportion to the increased demand for means of transportation by our citizens, to which there seems no limit. New routes are being opened across the continent; and in addition to that by the Isthmus of Panama, there is another via San Juan de Nicaragua, in successful operation. It is believed that a third, the "Tehuantepec" route, will soon be opened, and it is not probable that the spirit of enterprise will stop with the last named.

A proposition for the semi-monthly mail service between New York and California, via San Juan de Nicaragua, was submitted to this department in March last, by Mr. C. Vanderbilt, of the city of New York, and with it was enclosed a copy of a memorial presented to the Senate in December, 1850, by the same gentleman, copies of which are hereto subjoined, together with a copy of the reply to Mr. Vanderbilt. (No. 4.) In the memorial to the Senate will be found the plan proposed, the periods of time, and the rate of compensation.

"Whether the ships built or used by the contractors can now be taken for the use of the government? and whether it would be the interest of the government to take them and pay for them at this time?"

In answer to the first of these interrogatories, I presume there can be no question of the power of the government to take any or all of the ships of these lines, at valuation in the manner specified in the contract, at any time within ten years from the commencement of the service.

To the second, presuming that the head of this department is expected to answer only so far as pertains to the public interests under its supervision, I respectfully state, that in my judgment the interests of the navy do not require that these vessels "shall be taken and paid for at this time." If it be the design of Congress to make an addition to the navy by an appropriation equal to the purchase of these ships, it can, without doubt, be applied more judiciously to building vessels expressly designed for purposes of war.

For the description of these mail steamships, their convertibility into war-steamers, and other information relating to the materials used in their construction, I respectfully refer to the reports of the intelligent officers who have given much attention and consideration to these subjects, hereto annexed. (Nos. 1 and 2.)

While their discussions justify the conclusion that vessels of this description cannot be relied on to supersede those modelled and built only for purposes of war, it is respectfully suggested that a limited number of them, employed in time of peace in the transportation of the mails, would be found a most useful resource of the government on the breaking out of war.

If conforming to the standards required by these contracts, their readiness to be used at the shortest notice, their capacity as transports for troops and munitions of war, and their great celerity of motion, enabling them to overhaul merchantmen, and at the same time escape cruisers, would render them terrible as guerrillas of the ocean, if fitted with such armaments as could be readily put upon them in their present condition.

I am, with the highest respect, your obedient servant,

WILL. A. GRAHAM.

Hon. Wm. R. King,
*President of the Senate.*

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No. 1.

IN SENATE OF THE UNITED STATES—*September* 18, 1850.

Mr. RUSK made the following report:

*The Committee on the Post Office and Post Roads, to whom was referred a resolution of the Senate, adopted on the 27th day of May last, in the following words, viz: "Resolved, that the Committee on the Post Office and Post Roads inquire and report to the Senate the facts in relation to the respective contracts for building mail steamships, and for the transportation of the United States mails between New York and Liverpool, between New York, Havana, and New Orleans, and Havana and Chagres, and between Panama and San Francisco and some point in Oregon: whether said ships have been completed in the manner and at the times stipulated in the contracts, respectively, and if not, what reasons are assigned therefor; whether such delay, if any, has been detrimental, under all the circumstances, to the interests of the government and the requirements of the service; whether any of said ships have been increased in their tonnage, dimensions, and machinery, and, consequently, in their value and effectiveness for naval and mail purposes, and the probable cost of those required by the terms of the contracts, and those actually constructed; whether the mail service is now performed by said lines, respectively, according to their contracts, and what compensation has been paid therefor; and whether any further provisions of law be necessary to secure the more effectual performance of said service, and the other objects contemplated by said contracts."—have given to the same their most careful consideration, and respectfully report:*

In the discharge of the duty assigned them, your committee have thought it best to state, as plainly and concisely as possible, what has taken place between the government and the contractors for the lines mentioned in the resolution, respectively, and therefore propose to dispose of each in the order named in the resolution. With a view to the proper investigation of the subject, your committee, through their chairman, addressed notes to the Postmaster General, the Secretary of the Navy, and each of the contractors, requesting them to furnish, for the information of the committee, copies of all documents connected with the transactions in question, and such other information as might be deemed necessary to answer the inquiries devolved upon them by the Senate; and, in answer thereto, received reports, accompanied by the copies of documents hereunto annexed.

The following report of Commodore Perry and Commander Cunningham, to whom an order had been addressed by the Secretary of the Navy, covering the resolution of the Senate, bearing date the 27th of May last, furnishes perhaps the most accurate information that can be obtained with regard to the extent to which the contractors for the several lines of steamships have complied with their respective engagements:

NEW YORK, *June* 12, 1850.

SIR: In obedience to the order of the Navy Department of the 5th instant, covering a resolution of the United States Senate, bearing date the 27th May ultimo, we have the honor to submit the following report:

In view of a better explanation of the subjects on which we are called

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upon to report, we have arranged the inquiries of the Senate under four several heads, and have replied to them consecutively, and with reference to each respective contract.

*First.* "*Resolved*, That the Committee on the Post Office and Post Roads inquire and report to the Senate the facts in relation to the respective contracts for building mail steamships, and for the transportation of the United States mail between New York and Liverpool, between New York, Havana, and New Orleans, and Havana and Chagres, and between Panama and San Francisco and some point in Oregon; whether such ships have been completed in the manner and at the times stipulated in the contracts, respectively, and if not, what reasons are assigned therefor."

With respect to the contract for transporting the United States mail between New York and Liverpool, entered into by E. K. Collins and associates, and dated the 6th of March, 1846, the contractors stipulated to build five steamships—four to be ready in 18 months from date of contract, and the fifth to be completed as early as practicable. By a subsequent law of Congress, the time for the completion of E. K. Collins's contract was extended to the 1st of June, 1850.

Of the vessels above referred to, four have been launched—the "Atlantic," of 2,845 tons; the "Pacific," of 2,707 tons; the "Arctic," of 2,856 tons; and the "Baltic," of 2,723 tons, registered measurement. The fifth has not yet been commenced. The "Atlantic" was inspected on the 5th of April, and the "Pacific" on the 13th of May last, and they are now employed under the contract in the transportation of the mails. The "Arctic" and "Baltic" will, it is expected, be ready for inspection in August next.

The ships of Collins's contract are required to be of not less than 2,000 tons burden, with engines of not less than 1,000 horse-power. In tonnage, it will be seen that they considerably exceed the prescribed limits, and the effective or working power of their engines is not less than 1,500 horses; though, according to the old rule of Watt and Bolton for estimating the power of steam-engines, their nominal power is a little short of 1,000 horses.

In manner and materials of construction of these vessels, the terms of the contract have been complied with, excepting that, instead of engines of direct action, those with side levers have been substituted. (See accompanying paper marked A.)

The contract of Albert G. Sloo, dated April 20, 1847, was for the construction of five steamships—four to be of not less than 1,500 tons burden, with engines of not less than 1,000 horse-power, and one of not less than 600 tons burden, with engines in proportion: two of the vessels to be ready on or before the 1st day of October, 1848, and two on the 1st day of October, 1849—no time being mentioned for the completion of the *fifth*. A subsequent modification of the contract authorizes an increase in the dimensions of the four larger vessels.

With respect to this contract, which has been assigned to George Law and associates, the "Falcon," of 1,000 tons, has been purchased by the contractors, and temporarily employed, by consent of this department, (so far as the undersigned are informed,) in the transportation of the mails since December, 1848.

The "Ohio," of 2,432 tons, and the "Georgia," of 2,727 tons, have been constructed and sent to sea, though but one of them has been recognised as coming within the stipulations of the contract. The "Ohio,"

not being coppered, has not been received; therefore, of the original ships contemplated *to be constructed* conformably with the terms of the contract with A. G. Sloo, but one (the "Georgia") has been received, which vessel was inspected on the 24th of January last.

As to the manner of constructing the "Georgia," (the only one received, and, consequently, the only one of which a description can be given consistently with the inquiry,) it may be said that, in the construction of the hull of this and the other larger vessels of Sloo's contract, it was stipulated that she and they were to be equal in manner of build and description of materials to the build and materials of the late United States steamer "Missouri;" but, as has been heretofore represented to the Navy Department, (see accompanying paper, marked B,) this was impracticable; and the "Georgia" may be considered to be a substantial-built vessel of mixed unseasoned timber, (all the ships of the several contracts have been constructed of mixed unseasoned timber,) similar, but in no wise superior, to the materials used in the construction of the best merchant ships in the city of New York.

In dimensions, the "Georgia" is far beyond the *dimensions originally stipulated for;* but it will be recollected that the contractor reserved the right to add thirty feet to the length, and five to the breadth, should he deem it advisable to do so. Her engines, instead of being made of direct action, as provided for in the contract, are constructed with side levers: their nominal power is short of 1,000 horses, according to the rule of Watt and Bolton, but they can be easily and safely worked at 1,400 or 1,500 horses. These engines and boilers, though differing from those of the "Missouri," (see paper B,) are good; and, in point of speed and excellent sea qualities, the "Georgia" is represented to be, by her commander, Lieutenant D. D. Porter, United States navy, a very superior vessel.

The delay in the completion of the vessels *that have actually been commenced* under the contract with E. K. Collins and associates and A. G. Sloo may be chiefly ascribed to the overpress of work at the steam-engine manufactories in the city of New York—the demand for steam machinery having been greatly increased by circumstances growing out of the accession of territory to the United States; and probably the manufacturers, unaccustomed to the construction of engines of such magnitude—some of them almost unprecedented as marine engines (in extent of power) in any part of the world—may have miscalculated the time that would be required to complete them. The contractors used every means of hastening the completion of the engines. Such as have been put in operation reflect high credit on those who constructed them.

The contract with Arnold Harris, dated the 16th day of November, 1847, since assigned to Howland and Aspinwall and associates, provides for three steamers for the transportation of the mail on the Pacific ocean—two of which were to be in burden not less than 1,000 tons, and one not less than 600 tons; no stipulations are mentioned as to model or construction of vessel, or description of engine. They were, however, to be such vessels as might be easily converted to war purposes. The contract for carrying the mail was to go into operation on the 1st day of October, 1848. In conformity with this agreement, these vessels were constructed and sent to the Pacific.

The "California," of 1,050 tons, sailed from New York on the 6th October, 1848; the "Panama," of 1,087 tons, sailed 2d December; and the "Oregon," of 1,099 tons, sailed on the 7th December, 1848.

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The vessels already built and sent to sea under this contract are good, substantial sea-steamers, though having but one engine and two boilers each—a very serious objection, as, in the opinion of the undersigned, no steamer intended for ocean navigation, however small her dimensions, should be constructed with less than two engines, and three or four boilers.

*Second.* "Whether such delay, if any, has been detrimental, under all the circumstances, to the interests of the government and the requirements of the service."

In reply to this part of the inquiry, the undersigned do not consider themselves competent to judge advisedly in the premises.

*Third.* "Whether any of said ships have been increased in their tonnage, dimensions, machinery, and consequently in their value and effectiveness for naval and mail purposes, and the probable cost of those required by the terms of the contracts, and those actually constructed."

It will appear, from the reply to the first question, that most of the vessels contracted for have been somewhat larger than was probably contemplated by the contracts, and, of course, are proportionally more costly; but they have not been rendered thereby less effective for the transportation of the mails, or for war purposes. The cost of the hulls of these vessels may be estimated as coming within fifty-five to seventy dollars per ton, according to the value of the materials and manner of construction.

The stipulated nominal power of their engines has not been increased; and in this respect there may be an objection to the increased tonnage, as the proportional power of steam to tonnage is less than might have been wished, to secure extraordinary speed, though for ordinary purposes of convenient navigation, or for cruising, the power of the engines is in fair proportion to the tonnage.

In the conversion of these vessels to war purposes, considerable alteration would be required; and, though they can never be made equal to those steamers originally designed and constructed expressly for the navy, still they can be rendered available in cases of emergency, and without any great disbursement of money. Much of the expense in the construction and equipment of the mail steamers, has been disbursed in the arrangement and decorations of the cabins for the accommodation of passengers. Of course it could not, in case of their transfer to the navy, be expected that these items of cost should be taken fully into account in the appraisement provided for in the contracts. As the undersigned understand the letter and spirit of these contracts, the United States have the right—and the exercise of such right is altogether optional with the government—to take possession of these vessels at any time of need, at a valuation to be appraised upon terms expressly provided for.

*Fourth.* "And whether the mail service is now performed by said lines, respectively, according to their contracts, and what compensation has been paid therefor; and whether any further provisions of law be necessary to secure the more effectual performance of said service, and the other objects contemplated by said contracts."

The undersigned are not possessed of sufficient information to authorize a reply to this part of the inquiry.

With great respect, we are your most obedient servants,

M. C. PERRY,
R. B. CUNNINGHAM.

The Hon. Wm. Ballard Preston,
*Secretary of the Navy, Washington.*

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With reference to the question "whether such delay (if any) has been detrimental, under all the circumstances, to the interests of the government and the requirements of the service," upon which Commodore Perry and Commander Cunningham do not feel themselves competent to judge, your committee would remark that, although the public service may have, and probably has, failed to enjoy benefits which would have accrued from a literal compliance with the contracts, so far as the earlier completion of the ships is concerned, they believe the failure to enjoy those benefits is more than counterbalanced by the advantages attendant on an increase in the size and value of the vessels, and their consequent availability for naval purposes.

In answer to that portion of the resolution which calls for an inquiry "whether the mail service is now performed by said lines, respectively, according to their contracts, and whether compensation has been paid therefor," your committee would respectfully state that, according to the report of the Secretary of the Navy hereto annexed, two ships of the Liverpool line are in the performance of the mail service for which they were intended, but no payment has been made for mail service. The amount advanced to E. K. Collins and his associates, under the act of Congress of August 3, 1848, for the purpose of enabling the contractors to furnish the ships, is $317,500. The accompanying statements of the accounts between the government and the contractors for the Pacific mail line show what service has been rendered, and the sums that have been paid for it—amounting in all to $262,569 45. The "Georgia" is the only ship which has been accepted under the contract with A. G. Sloo. No payment for service has been made. No advance has been made since 4th March, 1849, previously to which period $290,000 had been advanced. The Secretary has declined to make further advances to this line.

The Navy Department, not having been furnished with any reports showing the probable cost of the steamships required by the terms of the contracts, nor of those actually constructed, has not been able to answer the inquiries contained in the resolution on this head. Annexed hereto are the reports made by the contractors to the committee on this subject.

There is another line of steamers to which your committee would briefly refer, although not included in the resolution of the Senate. The Bremen line, for which Mr. Mills was the contractor, may be regarded as the pioneer of the system, and as such entitled to a fair share of consideration. The two ships of this line which have been placed in service have been excelled, it is true, in speed, by others subsequently built, and have consequently ceased to command the patronage of travellers; but it is believed they have nevertheless been profitable to their owners as freight vessels, and of essential service in promoting the interests of American commerce. Through the instrumentality of this line, a more direct channel of intercommunication with central Germany has been opened, the effect of which has been, and must continue to be, highly beneficial to our country, in inducing the hardy sons of that vast and densely-populated region to migrate to the fertile but comparatively uninhabited valley watered by the Mississippi and its tributaries.

Having thus disposed of the first portion of the subject submitted to their consideration, your committee feel that they would be doing injustice to themselves were they not to give more than a passing notice to the matters inseparably connected with the establishment of ocean steam-packet navigation. Before they do this, however, they deem it their duty to impress

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upon the Senate the obligation on the part of Congress to carry out to their fullest extent the contracts already entered into. There are some amongst us who are disposed to cavil at the failure of the parties to these contracts to comply with the strict letter of their engagements, and who are willing to punish any delays that may have occurred by a forfeiture of the privileges incident to them. To such views your committee cannot give their consent. Whatever has been done, has been done with the best intentions; and, although contractors may have failed to fulfil their engagements literally, their failure to do so appears to have proceeded from a desire to promote the interests of the government, and not from any disposition to secure their own at the expense of public prosperity. Under such circumstances, it becomes the duty of the national legislature to regard these contracts with indulgence, and to sustain and cherish an enterprise which, without the aid of the government, must fall short of its mark. It should be borne in mind that whatever changes have been made, causing, necessarily, delay and temporary inconvenience, have been effected with a view to the advancement of our commercial marine and maritime defences. Of the contracts under consideration, it might perhaps be said that not one has been performed to the letter. Even in the case of the Pacific Steam Company, which has excelled all others in promptness and efficiency, a caviller might see cause for fault-finding in the fact that vessels which should have been ready for service on the 1st of October were not prepared to depart before the 6th of the same month, or one or two months afterwards. Such, however, are not the views by which enlightened legislation should be governed; the intentions of the parties being evidently upright, they should not be regarded and punished as wrong-doers.

The importance of the steam mail service, when considered with reference to the convenience which it affords to the social intercourse of the country, is as nothing when compared with its vast bearing upon the commerce of the world. Wherever facilities of rapid travel exist, trade will be found with its attendant wealth. Of the truth of this proposition, no country, perhaps, affords a more forcible illustration than Great Britain, as one has ever availed itself, to so great an extent, of the benefits of easy and rapid intercommunication between the various portions of her almost boundless empire. The commercial history of England has shown that mail facilities have uniformly gone hand in hand with the extension of trade; and wherever British subjects are found forming communities, there do we find the hand of the government busy in supplying the means of easy and safe communication with the mother country. With a view to this, we have beheld England increasing her steam-marine at an enormous expense, and sustaining packet lines connecting with every quarter of the globe, even in cases where any *immediate* and *direct* remuneration was out of the question. The great object in view was, to draw together the portions of an empire upon which the sun never sets, and the martial airs of which encircle the globe, and to make British subjects who dwell in Europe, Asia, Africa, America, and even Oceanica, all feel alike that they are Britons. The following statement of the admiralty arrangements of the packet service as far back as September, 1847, will afford some idea of the system of mail service, and the efficiency, regularity, and certainty with which it is conducted.

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## *Abstract of contracts for the conveyance of mails.*

NOTE.—By the act 7th William IV, chapter 3, previous contracts entered into by the Post Office were transferred to the Admiralty. All sea contracts under £500 per annum directed to be managed by the Post Office by Treasury Minute of December 8, 1840.

| Line of communication. | How often. | Number, size and character of vessels. | Names of contractors. | Terms. |
|---|---|---|---|---|
| I. Liverpool and Isle of Man. | Twice a week..... | Steamer; not less than 140 tons... | Mona Isle Steam Company..... | £850 per annum. |
| II. Liverpool and Kingston... | Daily..... | A sufficient number of steamers—not less than 8, and not less than 160 horse-power. | City of Dublin Steam-packet Company. Office in London, 51 St. Mary Axe. Agents, Messrs. Wilcox & Anderson. | £9,000 per annum: but only £8,400 if both Sunday boats are dispensed with by the board, and £8,700 if only one Sunday boat is employed. |
| III. Aberdeen and Lerwick.... | Weekly..... | Steamers of not less than 80 horse-power, from April to September, inclusive. Sail vessels of not less than 140 tons (o. m.) from October to March, inclusive. | Aberdeen, Leith and Clyde Shipping Company. Agents, Messrs. Pirie & Forsyth, Freeman's court, Cornhill. | £900 per annum. |
| IV. London—Hamburg..... | Twice a week..... | Steamers; not less than 100 horse-power. | General Steam Navigation Company, 69 Lombard street. Secretary, Mr. John Wilson. | £17,000 per annum. |
| Rotterdam..... | .....do..... | Steamers; not less than 80 horse-power. | | |
| V. England—Vigo, Oporto, Lisbon, Cadiz, Gibraltar. | Weekly. March 7, 1845, reduced to 3 times a month. | Steamers—5 or more; not less than 140 horse-power. | Peninsular Steam Navigation Company. John Allan, esq., secretary, 51 St. Mary Axe. | £29,600 per an'm. March 7, 1845, less £9,160 from April next. |
| VI. England, Gibraltar, Malta, and Alexandria. | Monthly..... | Steamers—2 or more; not less than 400 horse-power; each steamer to be fit and able to carry and fire at least 4 guns of the largest calibre used in the navy; may temporarily employ a steamer of 260 horse-power. | Peninsular and Oriental Steam Navigation Company. John Allan, esq., secretary, 51 St. Mary Axe. | First year £87,000, 2d year £35,000, 3d year £34,000, 4th year £33,000, 5th and afterwards £32,000. July 29, 1842, £3,500 ordered to be abated from the amount of contract money. |



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| | | | | |
|---|---|---|---|---|
| VII. Alexandria and Beyrout .. | Monthly..... | Sailing vessel; 120 to 150 tons.... | John Friend, Alexandria..... | £130 per month. |
| VIII. Liverpool, Halifax and Boston. Liverpool and New York. | 44 voyages annually. | Nine steamers; not less than 400 horse-power; and 1 spare steamer of not less than 150 horse-power. | S. Cunard, Halifax, N. S., George Burns, Glasgow, and Charles MacIver, Liverpool. | £85,000 per annum until commencement of New York line, when it is to be £145,000 per annum. |
| IX. Halifax and Bermuda..... | Twice a month in summer; once in winter. | Sailing vessels—4 or more; not less than 100 tons (o. m.) | Samuel Cunard. Agent, Mr. J. Bromley Foord, 52 old Broad st. | £4,469 per annum. |
| X. Halifax and Newfoundland. | Twice a month from April to Nov'r, inclusive; once during the four winter months. | A steam vessel of not less than 100 horse-power from April to December; a sail vessel of not less than 120 tons for January, February and March. | James Whitney, St. John's, New Brunswick. Agent, George de Bosco Attwood, esq., No. 7 St. Helen's Place. | £4,150 per annum. |
| XI. England, West Indies and Gulf of Mexico. | Twice a month.... | Steamers—14; of which 10 not less than 400 horse-power, and remaining 4 (to be employed intercolonially only) of not less than 250 horse-power. Sailing vessels—2 or more; not less than 100 tons. | Royal Mail Steam-packet Company. Office No. 55 Moorgate street. | £240,000 per annum. |
| XII. England and Sydney, New South Wales. | Once a month from England; 12 annual departures from Sydney. | Sailing vessels of not less than 250 register tons. | Henry Toulmin and Calvert Toulmin, 31 Great St. Helen's. | £100 per voyage out and £150 per voyage home. |
| XIII. East Indies and China .... | Once a month..... | 3 steamers of not less than 500 horse-power; 1 steamer of not less than 250 horse-power for Calcutta and Suez service; 2 steamers of not less than 400 horse-power; 1 steamer of not less than 250 horse-power for China service. | Peninsular and Oriental Steam Navigation Company. John Allan, esq., secretary, 51 St. Mary Axe. | £160,000 per annum. |
| XIV. Channel islands..... | Three times a week. | 3 or more steamers of not less than 80 horse power. | W. J. Chaplin, Amb. Humphreys, John Hibbert, for Southwestern Steam-packet Company. | £2,000 per annum. |
| XV. Pacific..... | Once a month..... | 4 or more steamers of not less than 150 horse-power. | Pacific Steam Navigation Company. | £20,000 per annum. |



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In carrying out this system, the steam-marine of England has been extended to a limit that startles belief, and suggests to every reflecting mind the propriety, on the part of other and rival nations, of taking steps to guard themselves from the attacks of so overwhelming a force, in the event of a collision with that great power.

A return furnished by the comptroller of steam machinery, in 1847, shows that the number of steam-vessels at that time was one hundred and seventy-four, with an aggregate horse-power of 44,480; thirteen more were to be completed *in the course of the year*, and twenty-five were in course of construction.

A return of the steam-vessels suitable for war purposes shows that there were then available, or building, for vessels of war:

| | |
|---|---|
| 4 line-of-battle ships; horse-power - - | 1,800 |
| 23 frigates - - - - - | 11,759 |
| 48 sloops - - - - - | 14,862 |
| 28 gun-vessels - - - - | 3,906 |
| Total horse-power - - - | 32,327 |

From 1843 to 1847, inclusive, *fifty* steamers were launched, and *seventeen* more were in process of building.

On reference to the foregoing admiralty statement, it will be seen that, as far back as 1847, in two lines alone, the Cunard line and the West India line, the British government had on our coast twenty steamers, with an aggregate tonnage of 22,784 tons and 7,899 horse-power, which could at a moment's warning have been employed in burning down our cities and ravaging the seacoast. One of the happy effects produced by the establishment of the New Orleans and Chagres line, although but three ships have as yet been employed, has been to rid the country of the inquisitorial visits of the fourteen British steamers, commanded by naval officers, which had previously regularly entered our southern ports, and become as familiar with the peculiarities of our coast as our own seamen. As letters and merchandise will always be sent by the speediest conveyance, the fleetness of our ships has been such as to secure them freights and postage money which had previously been monopolized by British steamers; and your committee are informed that the company to which these British steamers belong have already disposed of the wharves and other improvements for the accommodation of their vessels. It is only necessary to advert to the condition of our southern coast, had a war with England taken place without effective defences, and with such a force of foreign war steamers hovering within striking distance, and selecting their own time for attacks upon our cities. When the line of steamers under the contract with Mr. Sloo shall have been completed, there will be at least such a fleet in that quarter as on an emergency may ward off destruction, as, whilst they will be ready for battle whenever it may be advantageously waged, their fleetness will enable them to escape from a superior force. The same remarks will apply to the steam lines to Liverpool and Bremen, as they will, in the event of hostilities, be ready to guard our northern coast and cities, in connexion with others that might be adapted to war service in the course of a short time.

In order to enable the Senate to form a correct opinion in regard to the profitableness of these ocean steam packets, and thereby to judge of the actual expense to which the government may be subjected, your committee

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present some statistical information connected with what is called the Cunard (British) line of steamers. These statistics were collected by that intelligent and indefatigable statesman, the Honorable T. Butler King, of Georgia, formerly chairman of the Naval Committee of the House of Representatives, and are contained in a speech delivered by him on the 19th of July, 1848:

"*Statement of the probable amount received by the Cunard line of steamers from passengers and for letters and papers from* 1841 *to* 1846, *inclusive; and also of the value of, and duties paid on, package goods imported in said line during that period—founded on statements received in March,* 1847, *from the Boston custom-house and post office.*

| | | |
|---|---|---|
| In 1841, the number of passengers landed in Boston was 1,436; the passage money for that year amounted to | $172,320 | |
| According to our estimate, the number who sailed from Boston to Liverpool is 1,293; the passage money amounted to | 168,090 | |
| The amount paid by the British government for the transportation of the mails was | 425,000 | |
| Making in that year for these two items alone | | $765 410 |
| In 1842, the number of passengers who landed in Boston was 1,004; the passage money amounted to | 150,600 | |
| The number of passengers for Liverpool was 904; passage money | 117,520 | |
| Amount paid for mail | 425,000 | |
| | | 693,120 |
| In 1843, the number of passengers landed in Boston was 1,146; passage money for them was | 171,900 | |
| The number landed in Liverpool was 1,082; the passage money was | 134,160 | |
| Add amount for carrying mail | 425,000 | |
| | | 731,060 |
| In 1844, the number of passengers landed in Boston was 1,590; passage money | 238,500 | |
| Passengers landed in Liverpool, 1,431; passage money | 186,030 | |
| Received for mail | 425,000 | |
| | | 849,530 |
| In 1845, the number of passengers landed in Boston was 1,823; passage money to Boston | 273,450 | |
| Passengers landed at Liverpool, 1,611; passage money | 202,330 | |
| Paid for mail | 425,000 | |
| | | 901,780 |
| In 1846, there were ten trips made, and the number of passengers to Boston was 1,540; passage money | 231,000 | |
| To Liverpool the number was 1,386; passage money | 180,180 | |
| Paid for mail | 425,000 | |
| | | 836,180 |
| | | 4,777,080 |

"The whole amount received by the Cunard line for six years, for these two items alone, therefore, is four million seven hundred and seventy-seven thousand and eighty dollars.

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"The value of goods, including specie, and the amount of duties paid, were as follows:

| | |
|---|---|
| In 1841, the value of goods was | $769,684 00 |
| Duties paid | 73,869 23 |
| In 1842, the value of goods was | 1,730,770 00 |
| Duties paid | 120,974 67 |
| In 1843, the value of goods was | 9,300,632 00 |
| Duties paid | 640,572 05 |
| In 1844, the value of goods was | 4,443,695 00 |
| Duties paid | 916,198 39 |
| In 1845, the value of goods was | 4,026,332 00 |
| Duties paid | 1,022,992 75 |
| In 1846, the value of goods was | 4,441,999 00 |
| Duties paid | 1,054,731 75 |

"The duties, it will be perceived, have increased from $73,809 23 in 1841, to $1,054,731 75 in 1846. The amount received from the transmission of the mail and passengers is entirely exclusive of that which they received for freight.

"According to the estimates of the postmaster at Boston, the number of letters from Boston to Liverpool is 30,000, and the number of newspapers 20,000; and he says an equal number is sent in the Canada mails.

"The following statement shows the amount which the *British government* has received for postages on mailable matter carried in this line. The number of letters and papers is given as stated and estimated at the Boston post office, the rate of postage being that charged in the New York packets. It is estimated that these steamers carry an average of 60,000 letters and 40,000 newspapers every trip, and that the postages amount to an average of $31,600.

| | |
|---|---|
| In 1841, the steamers made 21 voyages, or 42 trips; which will give from this source, on mail matter alone | $1,327,200 00 |
| In 1842, they made 21 voyages; which, according to the same rate, would amount to | 1,327,200 00 |
| In 1843, they made 20 voyages; and the amount received for the mail was | 1,295,600 00 |
| In 1844, they made 20 voyages; and the amount received for the mail was | 1,295,600 00 |
| In 1845, they made 21 voyages; and the amount received for the mail was | 1,327,200 00 |
| In 1846, they made 19 voyages; and the amount received for the mail was | 1,264,000 00 |
| Total amount for six years | 7,836,800 00 |
| Deducting from this sum the amount paid for the mail | 2,550,000 00 |
| It leaves a balance to the credit of the British government of | 5,286,800 00 |

"If there is an error, it cannot be great enough to alter the general result. This shows that the British government is not only repaid the amount

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disbursed, but that it received a large amount of revenue from this source. In fact, it appears that the receipts would support *two more* lines at an equal cost.

"The favorable results of this contract induced the government, in the year 1846, to enlarge it by adding four ships to run from Liverpool to New York, and to increase the compensation to one hundred and forty-five thousand pounds, or about seven hundred and twenty-five thousand dollars per annum. These last ships have just commenced their regular trips, and will, without suitable efforts on our part to compete with them, be amply supported, as their predecessors of the Boston line have been, by our commerce and intercourse with Great Britain.

"In the year 1840 a contract was made by the admiralty with the Royal Mail Steam-packet Company, at two hundred and forty thousand pounds sterling, or one million two hundred thousand dollars per annum, for fourteen steamers to carry the mails from Southampton to the West Indies, the ports of Mexico in the gulf, and to New Orleans, Mobile, Savannah, and Charleston. These ships are of the largest class, and are to conform in all respects, concerning size and adaptation to the purposes of war, to the conditions prescribed in the Cunard contracts. They are to make twenty-four voyages or forty-eight trips a year, leaving and returning to Southampton semi-monthly.

"Another contract has recently been entered into, as I am informed, for two ships to run between Bermuda and New York. The West India line, in consequence of some disasters during the first years of its service, was relieved from touching at the ports of the United States; but in the spring of last year it was required to resume its communication with New Orleans, and is at any time liable to be required to touch at the other ports on our coast which I have named. Thus it will be perceived that this system of mail steam-packet service is so arranged as not only to communicate with Canada and the West Indies, the ports on the Spanish main and the gulf coast of Mexico, but also to touch at every important port in the United States, from Boston to New Orleans.

"These three lines employ twenty-five steamers of the largest and most efficient description, where familiarity with our seaports and the whole extent of our coast would render them the most formidable enemies in time of war. It is scarcely possible to imagine a system more skilfully devised to bring down upon us, at any given point and at any unexpected moment, the whole force of British power. More especially true is this with respect to our *southern* coast, where the great number of accessible and unprotected harbors, both on the Atlantic and the gulf, would render such incursions comparatively safe to them and terrible to us. And when we reflect that the design of this system is, that it shall draw the means of its support from our own commerce and intercourse, we should surely have been wanting in the duty we owed to ourselves and to our country, if we had failed to adopt measures towards the establishment of such an American system of Atlantic steam navigation as would compete successfully with it."

With a view to throw all the light possible on the subject, your committee would present the following valuable statistics, taken from the "*United States Postal Guide and Official Advertiser*," published in this city, for August, 1850. They appear to be derived from official sources.

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*Mails sent and received by steamers between New York city and California via Chagres.*

| Date. | Sent. | Received. | Total. |
|---|---|---|---|
| 1848.—December | $553 08 | None. | $553 08 |
| 1849.—January | None. | $119 37 | 119 37 |
| February | 307 78 | None. | 507 78 |
| March | 947 17 | 103 42 | 1,050 59 |
| April | 2,536 17 | 750 32 | 3,286 49 |
| May | 4,400 82 | 727 20 | 5,128 02 |
| June | 5,435 20 | 1,807 88 | 7,243 08 |
| July | None. | None. | None. |
| August | 8,984 17 | 2,129 79 | 11,113 96 |
| September | 4,025 79 | 4,679 56 | 8,705 35 |
| October | 5,205 31 | 5,427 07 | 10,692 38 |
| November | 6,604 67 | 6,131 47 | 12,736 14 |
| December | 10,140 66 | 6,244 76 | 16,385 42 |
| 1850.—January | 13,164 09 | 6,401 84 | 19,565 93 |
| February | 11,981 77 | 7,128 54 | 19,110 25 |
| March | 11,811 23 | 11,270 05 | 23,081 28 |
| April | 12,316 26 | 11,841 41 | 24,157 67 |
| May | 13,688 67 | 18,028 04 | 31,716 71 |
| June | 16,001 82 | 10,440 67 | 26,442 49 |

NOTE.—These postages are to and from New York, also from Charleston, Savannah, and New Orleans. They average at least $5,000 per month; and, estimating the present amount of New York postages at $30,000 per month, the whole exceeds $400,000 per annum.

*Mails sent and received by British steamers under the postal treaty.*

| Date. | Received. | Sent. | Total. |
|---|---|---|---|
| 1849.—February | | $6,241 31 | $6,241 31 |
| March | $21,642 09 | 13,357 24 | 34,999 33 |
| April | 19,584 04 | 14,175 87 | 33,759 91 |
| May | 19,213 27 | 25,123 36 | 44,336 63 |
| June | 27,052 39 | 20,191 06 | 47,243 45 |
| July | 22,382 06 | 21,225 47 | 43,607 53 |
| August | 20,629 02 | 27,655 60 | 48,284 62 |
| September | 25,919 46 | 24,151 22 | 50,070 68 |
| October | 22,081 16 | 25,927 06 | 48,008 22 |
| November | 23,129 64 | 23,554 66 | 46,684 30 |
| December | 31,904 42 | 23,409 51 | 55,313 93 |
| 1850.—January | 21,433 87 | 28,979 24 | 48,412 61 |
| February | 26,966 16 | 22,245 90 | 49,212 06 |
| March | 29,385 68 | 25,118 33 | 54,504 01 |
| April | 23,232 48 | 29,400 48 | 52,632 96 |
| May | 38,485 38 | 22,082 54 | 60,567 92 |
| June | 26,279 34 | 22,958 86 | 49,238 20 |
| Whole number of mails 115 | | | 773,117 67 |
| Average per trip | | | 6,722 76 |

Nineteen twenty-fourth parts of the above is English postage. Five twenty-fourth parts of the above is United States postage.

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*Statement of mails received and sent by the New York and Bremen line of steamers since January 1, 1850.*

| Date. | Sent. | Received. | Total. |
|---|---|---|---|
| 1850.—January | None. | None. | |
| February | $6,442 08 | None. | $6,442 08 |
| March | 3,135 78 | None. | 3,135 78 |
| April | 3,759 65 | $3.482 32 | 7,241 97 |
| May | 4,257 52 | 4,043 47 | 8,300 99 |
| June | 3,019 38 | 3,865 87 | 6,885 25 |
| July | 4,135 65 | 3,585 55 | 7,721 20 |
| | | | 39,727 27 |

*Mails sent and received by Collins's line of American steamers under the postal treaty.*

| Name of steamer. | Date of bill. | Received. | Sent. | Total. |
|---|---|---|---|---|
| Atlantic | Apr. 29, 1850 | | $4,484 94 | |
| Pacific | May 25, 1850 | | 1,884 74 | |
| Atlantic | June 15, 1850 | | 3,521 06 | |
| Pacific | July 5, 1850 | | 2,042 96 | $11,933 70 |
| Atlantic | June 9, 1850 | $500 67 | | |
| Pacific | July 1, 1850 | 597 76 | | |
| Atlantic | July 21, 1850 | 1,320 00 | | 2,418 43 |
| Whole number of mails 7 | | | | 14,352 13 |
| Average per trip | | | | 2,059 80 |

Twenty-one twenty-fourth parts of the above is United States postage. Three twenty-fourth parts of the above is English postage.

*Receipts and expenses of the California mail service.*

| | |
|---|---|
| The number of letters carried to and from the Atlantic cities by the California mail steamers during the month of August was | 85,000 |
| Twelve months, at this rate, would make an aggregate of | 1,020,000 |
| Which, at an average of 80 cents for each letter, will foot up the handsome amount of for the year's business in this branch of the mail service. | $816,000 |
| This is more than $200,000 above the compensation paid by contract for carrying the California mails. | |

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A question has arisen whether, in strengthening our naval marine, in accordance with the spirit of the age, the government should build its own war steamers, or whether it is not better to employ private enterprise, and make it available to the national security. It is agreed, on the one hand, that steamers constructed at the government dock-yards are likely to be better built and more durable, and that, being officered and manned under the regulations of the Navy Department, their crews will be kept in better subordination; on the other hand, it is urged by the friends of what is termed the contract system, that, admitting the fact that government ships are built of better materials, and are, consequently, more durable, it does not follow that, under the circumstances in which this country is placed, they are better or more available for the purposes of defence, in the event of a rupture with a foreign power. It will be borne in mind that steamers built by government, independently of the first outlay, which is enormous, cannot be kept in commission in time of peace, unless they be used for mail purposes.

The truth is, that, in the opinion of your committee, the temper of the times requires that we shall keep pace with the rapid improvements of other nations in their commercial and military marine, and that the only choice is, whether it is to be done by constructing vessels for the packet service, at a boundless expense to the government, or by aiding private enterprise, and thus not only eventually avoiding expense, but adding largely to the revenues of the country. It will be seen from the above extract from Mr. King's speech, that, in the course of five years, the balance in favor of the government from the Cunard line alone was $5,286,000. The New York and Liverpool and Bremen lines will come in for a large, if not by far the greater, share of the postage and freightage heretofore enjoyed by the Cunard line; and the line to Chagres, for the advantages that have, up to the time of its partial commencement, been in the exclusive possession of the British packet establishment in that direction. Nor are the freightage and postage moneys the only sources of profit. In proportion to the increase of these facilities will be the extension of trade, and consequently the government will receive the duties payable upon all foreign merchandise brought into the country. Besides, persons *in transitu* will leave much money in our cities and along their routes, to say nothing of the porterage and costs of transportation of goods. To benefit our people is to benefit our government; as the more we enrich the former, the more able are they to contribute to the support of the latter.

To construct ships and keep them in our navy-yards, subject to the injuries of time and casualties, does not consist with the notions of the American people, on the score of economy; nor is it in accordance with received opinions in regard to the propriety of placing excessive patronage in the hands of the general government. At the same time, it is in perfect unison with the spirit of our free institutions that the arts of peace shall be made tributary to the purposes of defence, and that the same energies which extend the commerce and manufactures of our country shall, in the event of necessity, be capable of being made use of for our protection. While the crowned heads of the Old World keep in constant pay vast armies and navies sustained by the heart's blood of the oppressed people, for the protection and preservation of their unhallowed power, it is the proud boast of our country that our soldiers are our citizens, and the sailors, who, in time of peace, spread the canvass of our commercial marine throughout the

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world, are the men who, in time of war, have heretofore directed, and will continue to direct, our cannon against our foes.

Under these circumstances, your committee are of opinion that the contract system, as applied to a steam-marine, is peculiarly the system best suited for our country. The noble structures erected by private enterprise, *under the direction of experienced naval constructors*, who shall guard the interests of the nation against the impositions of individual avarice or peculation, *and under the command of officers* whose profession it is to protect their country's honor, may well be the heralds of prosperity in peace, and of retribution upon our foes in war. If large sums be paid in advance to aid in these enterprises, they are so paid in remuneration of valuable services rendered to all classes of our people, who are thus enabled to interchange information, or practise the courtesies of life. With proper attention to the value of the service contracted for, there can be no loss to the government, with which it is optional to become the owners of the vessels or not. If the ships be valuable and suitable for naval purposes, they *may* be purchased in the event of war; but, if not, must remain in the hands of their original proprietors, on whom the loss, if any, must fall. But apart from abstract speculations, we have the experience of the most powerful maritime nation in the world to guide us in the matter. In the year 1848, a select committee of the British House of Commons was raised for the purpose of inquiring into the condition of the naval and military defences of England. The result of this examination has been published in a volume of more than a thousand pages folio, and a copy of the work is in the Navy Department. To this volume your committee have had access, and find that the contract system had a decided preference even with the best-informed men, whose prejudices might be supposed to incline them to a different way of thinking. On the 94th page of the report of the select committee referred to will be found the following:

"Under these circumstances your committee inquired whether the authorities at the admiralty were of opinion that this service could advantageously be performed by contract. Lord Auckland stated his opinion to be generally in favor of contracts on the ground of economy, but added that he thought the efficiency of the service was better served by government steamers. An immediate change to a system of contracts on all the home stations would not, he believed, contribute to a reduction of the charge; but still he was inclined to adopt contracts wherever a reasonable arrangement could be made. The contract of the Channel Islands had lately been renewed, and in this case the price paid to the contractors for an exactly similar service had been doubled. Captain Ellice, whose opinion on this subject deserves attention, said that, if proper contracts were adopted, the whole packet service might be advantageously and economically performed by contract." Again: "Your committee recommend that further endeavors should be made to obtain contracts for the performance of this service both on the foreign and home stations. If, however, it should be found impossible at present to obtain contracts on fair terms for some of these lines of communication, the committee do not suggest that the management of these packets should be removed from the admiralty. The committee recommend that the packet service be no longer charged to the navy estimates."

The committee thought that if the whole packet service were performed

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by contract, greater economy would be obtained. The committee thought that when the service was performed by the Queen's vessels, it should be charged to the post office department. The commissioners of the post office reported, in 1836, "that the packet service of the post office should be performed by contract, whenever such contracts can be procured on suitable conditions."

One of the objections which have been urged against the adoption of the contract system by this government, and which appears to be entitled to the particular consideration of your committee, is, that the sums appropriated to such contracts, being charged as naval expenditures, create a prejudice in the minds of the people against the navy proper, when, in fact, these sums are not applied to naval purposes, according to the usual acceptation of the term. The impropriety of such a system of charging is so evident to the minds of your committee, that they do not hesitate to recommend such a change as shall place these expenditures under their proper head. As the friends of our naval establishment, your committee cannot consent that this important arm of the public service, which has added so much to our national renown, shall be made the victim of a misrepresentation and misapprehension so mischievous and unfounded. The steam-packet service is, in fact, strictly civil in its character, and, although a certain portion of the officers employed belong to the navy, with a view to the safekeeping of property which may, eventually, be required for national defence, should be regarded and provided for as a separate and distinct branch of the postal establishment. Your committee are further of the opinion that contracts which have reference to the transportation of the mails by ocean steamers should be under the direction of the Post Office Department, inasmuch as they emanate from the postal regulations of the country. Your committee do not wish to be understood as intending to advocate the amalgamation of the foreign mail transportation and the domestic system of mail service, so as to make one answerable for the charges incident to the other. The ocean steam-packet service is, in their opinion, a distinct and separate branch of the public business, and should be sustained as such. It should be subject to the Post Office Department, simply because it springs out of, and is connected with, its regular duties. While your committee recommend a transfer, as above stated, of these contracts, they would recommend that they be made with the privity and participation of the Navy Department, inasmuch as the *materiel* to be employed may, under certain contingencies, be made a portion of the *materiel* of the navy, the selection of which properly belongs to that branch of the government; and the qualifications of the officers to be placed in charge of the steamers can only be known and appreciated by the department to which they belong.

On this point your committee would also adduce the results of British experience.

The commissioners of the post office (British) considered that the charges for steam mail-packet service ought not to be included in the navy estimates, (see page 93 of report of select committee H. C.) Lord Auckland (First Lord of the Admiralty) and Mr. Ward stated their belief that the charges incident to the mail-packet service create a prejudice against the navy; and that, while the post office revenue had been increased, few persons had been induced to inquire what counterbalancing expenses new lines had imposed on the estimates of the navy.

Your committee do not agree with the views set forth by the late Secre-

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tary of the Navy (Hon. Mr. Preston) in his annual report to Congress, and in his report hereunto annexed. It is difficult to imagine how the ocean steam-packet service, under proper regulations, can interfere with the prosperity of the navy otherwise than beneficially. It forms at present no part of the navy, and therefore cannot come in conflict with the measures which may be deemed necessary to insure the efficiency, permanency, or discipline of that arm of the public service. The simple fact that the ships employed in it *may hereafter, if the government thinks proper*, be purchased and commissioned as regular war steamers, to be officered and manned as ships of war, should not and cannot prevent the construction of steam or sailing vessels for ordinary naval purposes. Your committee are of opinion that, so far from being an impediment to the proper increase of the navy, the prosperity of the ocean steam-packet service must operate in favor of an enlargement of the naval force, the necessity for which is increased in proportion to the extension of our commercial relations with foreign countries. The routes upon which lines of steam-packets can be sustained and made profitable to the owners are comparatively few, when we take into view the infinitely diversified ramifications of trade. Great Britain, with her vast colonial and general commerce, had, in 1848, but fifteen lines in which national or contract vessels were employed, including the home stations, as they are called, or points of connexion between the British islands. Nor has the ocean steam-packet system hindered, in the slightest degree, her progress in the construction of steam or sailing vessels for the naval service. In speaking of steam vessels available for naval service, Captain W. H. Hall, of the British navy, in the course of his examination before the special committee of the House of Commons, hereinbefore referred to, says: "I some time ago sent to the admiralty a plan for making the whole of the merchant steamers available in case of need; and if there were an act of Parliament that these ships should be strengthened forward and aft to carry guns, it might be then done with a very trifling expense; that would give this country more power than any other country in the world. We have nearly one thousand steam vessels, half of which, at least, might be made available in case government required their services. Our mercantile steamers are some of the finest in the world, and five hundred of them might be turned to account. They should all be numbered and classed, so that government would merely have to ask for the number of vessels they wanted, when they might go to Woolwich, or other places, and put the guns on board, and then they would be ready for service."

Here is the opinion of a *captain in the British navy* with reference to the availability of steam vessels for national defence; and what a lesson does it teach us in America, where steam navigation is found penetrating every portion of the Union, and spreading itself on our maritime and lake frontier in every direction! Here is found no expression of apprehension lest the mercantile steamers might interfere with the growth or efficiency of the navy to which the witness belonged. This opinion, moreover, is expressed in a country where, according to the testimony before the committee already named, there were, in 1848, 174 *war steamers, with an aggregate horse-power of* 44,480 *horses;* and where Mr. Alexander Gordon states, in a letter addressed to the same committee, the steam navy had then cost the country £6,000,000 sterling, or $30,000,000, "*exclusive of all reinstate-*

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*ments and expenses during commission;*" the same gentleman also alleging

| | |
|---|---|
| that the annual repairs amounted to - - - | £108,000 |
| Annual cost for coals - - - - - | 110,000 |
| Depreciation at a moderate allowance - - - | 600,000 |
| Making the total amount of annual cost - - | 818,000 |
| Or - - - - - - | $4,094,000 |

The regular employment of the best engineers on board of contract vessels, and the great experience they would acquire from being constantly on active duty, would furnish to the naval service, in the event of a war, a corps that would be invaluable. In speaking of the superiority of the engineers on board of contract vessels in the employ of the British government over those on board of the Queen's ships, a witness before the select committee of the House of Commons says: "Last year there was a universal complaint of the inferiority of the engineers and all persons connected with steam employed in her Majesty's service. It was explained, and very easily explained, by the superior advantages in the merchant service, and particularly the high wages paid. In all contract steam packets, they have men on board the vessels who are competent to superintend any alterations or repairs in the machinery which may be required."

Your committee would recommend the passage of a law whereby the *personnel* of the steam packets, or at least such portions of it as may be connected with the management or navigation of the vessels, shall be placed under the immediate control of the officers of the United States navy attached to them, and made subject to the regulations of the naval service. The letter of Lieutenant Porter, hereto annexed, shows to what annoyances a commanding officer may be subjected in the absence of such a law. Insubordination should not be tolerated, more especially where so many valuable lives and such a vast amount of property are at stake. Should an engineer and his associates prove refractory on a lee shore and in bad weather, it is impossible to estimate the destruction of life and property that may ensue. The committee have read with pleasure Lieutenant Porter's account of the manner in which he treated the refractory parties on board of his vessel, the "Georgia," on a late voyage, and cannot commend too highly the promptness and energy displayed by that officer, to whom the travelling public are under great obligation for having presented an example worthy of being followed by others under similar circumstances. A law which would render the crews of ocean steam packets liable to the punishments inflicted in the regular service for disobedience of orders would, in the opinion of your committee, have an excellent effect.

The near approach of the end of the session, and consequent want of time to prepare and discuss proper laws on the subject, have prevented your committee from reporting such bills in connexion with the ocean steam-packet service, as its future welfare and prosperity would seem to demand. At the next session of Congress they propose to recommend the changes which appear to them necessary, and which they feel assured will meet with the approbation of the Senate. In the meanwhile, they wish to be understood as advising that the contracts at present subsisting shall be carried into effect in good faith. Regarding, as they do, the ocean steam-packet service as a system eminently calculated to promote the interests of

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our foreign commerce, and provide the means of defence in the event of war with nations abroad, all of which have, to a greater or a less extent, imitated the example of Great Britain with reference to the increase of their steam navies, your committee would commend it to the favor of the government and the nation, and would regard the advancement of that branch of the public service as contributing greatly to the happiness and prosperity of the country. In order to impress the necessity of an increase of this service, by showing to some extent, at least, the power with which we should be called on to contend in the event of a war, your committee have annexed hereto an official statement of the naval armament of Great Britain, in which the ships and their tonnage, horse-power, and weight of metal are regularly classified. Your committee might also furnish similar statements in regard to other nations, but they deem it unnecessary to do more than to remark that *all* of the foreign maritime powers have adopted a similar policy.

Such being the case, who can doubt the propriety of adding to our means of maritime defence—more especially when, in doing so, we shall promote the arts of peace, at an expense not worthy of being named in comparison with the boundless benefits to be received?

In order to place before the Senate all the information connected with this important subject within their reach at this moment, and enable that body to form a correct judgment in the premises, your committee have hereunto annexed a statement, furnished at the request of their chairman, by the present Secretary of the Navy, the Hon. W. A. Graham. From this statement it appears that the aggregate cost of the war steamers that have been built (seven in number) has been---------- $3,351,000
The annual expense of a ship-of-the-line of the first class is-- 287,500
The annual cost of a frigate of the first class is---------- 186,000
The annual cost of a war steamer of the first class is-------- 190,600

The annual expenses of the above ships, respectively, when in ordinary, are:
Ship-of-the-line---------- $25,000
Frigate, first class---------- 16,000
Steamer, first class---------- 26,000

Your committee would again recommend that nothing shall be done in the way of cancelling outstanding contracts for ocean steam-packet lines, and that every facility consistent with the spirit of those contracts be extended to the parties connected with them, with a view to the speedy attainment of the objects for which they were originally intended.

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POST OFFICE DEPARTMENT,
*June* 27, 1850.

SIR: I have had the honor to receive your letter, enclosing the resolution of the Senate, and making numerous inquiries respecting the contracts for building mail steamships, and for the transportation of the United States mail between New York and Liverpool, New York, Havana, and New Orleans, Havana and Chagres, and Panama and San Francisco and some point in Oregon. Most of those inquiries can be answered only at the Navy

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Department. In reply to those relating to the mail service—whether rendered agreeably to contract, and whether further provisions of law are necessary to secure the more effectual performance of said service, with the other objects contemplated by said contracts—I have the honor to submit the following statements and views, and the tables hereto appended. These will relate chiefly to the line of service between New York and San Francisco.

The extraordinary migration caused by the discoveries of gold in California, and the wonderful growth of settlement and business in that region, have occasioned the placing a large and increasing number of steamships and other vessels on this route, on both oceans. It was to be expected that all interested in this commerce, all having friends and relatives gone to California, and all whose curiosity was excited on the subject, would be anxious, and probably in some degree impatient, as to the intermediate mail communication. Besides, the owners of the various steam-vessels employed in transporting passengers would naturally desire employment from the government in carrying the mail. Congress, therefore, has been petitioned and urged to engage their service; and every occasional or unavoidable irregularity on the part of the government steamers has been made cause of loud complaint.

It is to be always borne in mind that, if the method of conveying the mails under the existing contracts is in any way set aside or abandoned, there is no existing legal provision for conveying them, and no power exists in any department to employ such service; and, until some action of Congress is taken on the subject, the service will entirely cease.

There are three modes which have been mentioned of transporting the mail. The first is by naval steamships, conducted by the navy, as a national service. This will occasion so enormous an expense that it is not probable the project will be entertained.

The next mode suggested is the sending the mails, from time to time, by the fastest steamers which are first going. This has one advantage: it gives occasional aid to the enterprising; but there are many and great objections to it:

1st. It is entirely inconsistent with fixed periods of departure and arrival.

2d. It makes all connexions on or with the route uncertain.

3d. A price must be fixed, to prevent undue exactions of the government; and yet no one would be under obligation to take the mail at the price, so that it would be uncertain of going at all.

4th. It would be impracticable to send agents with all those mails, to take care of them and make distributions, except at an enormous cost.

5th. There would be constant difficulty with slow and unsafe boats.

6th. The great object of obtaining steamships, so constructed, under the inspection of the Navy Department, as to be suitable for war vessels, and subject to exclusive appropriation and use as such, would be sacrificed.

The third project is the making of contracts, for a stated term of years, upon proposals advertised for in the ordinary method adopted for mail-coach service. This would not answer for ocean steam service, unless provision were made for security in the strength, capacity, and adaptation of the vessels, with their machinery, &c. But here lies the difficulty: to secure success to mail service, it must keep pace with the travel, or precede it, when transported by other conveyances; and to make a contract with steamships, in the ordinary way, for a long time, might confine the mails

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to certain vessels after improvements had produced those of much greater celerity and security. Besides, the last objection urged against the employment of miscellaneous steamers, by the trip, applies with equal force to this method.

There seems to be a necessity for the employment of steamships, built under government inspectors, of such strength and capacity as adapt them to the service and give assurance of permanent success.

The California mail service is now secured by contracts with the Navy Department, made in accordance with the provisions of the act of Congress approved March 3, 1847. Those contracts provide for the transportation of the mail twice per month each way between New York and New Orleans, touching at Charleston, (if practicable,) Savannah, and Havana; also, twice per month each way between Havana and Chagres; but they require between Panama and San Francisco a monthly conveyance only in each direction.

My opinion is, that the second monthly mail between New York and Chagres should be extended to San Francisco and to Astoria, in Oregon, so that there shall be a mail semi-monthly on the Pacific, as well as between New York and Panama.

For a more complete statement of the contracts above referred to, and of the contract for the service between New York and Liverpool, all made with the Secretary of the Navy, I refer you to the synopsis hereto attached, marked A, taken from copies thereof filed in the contract office of this department.

In respect to the performance of mail service on the Chagres and California routes, I refer you to the annexed tables, marked B, C, D, and E; and in respect to the Liverpool route, to table F.

On the latter route I am aware of no departure from the contract as modified by the act of Congress of March 3, 1849, which postponed the commencement of the service to the first day of June, 1850.

The service under the Pacific contracts was commenced in December, 1848, and has been performed with as much precision as could reasonably have been expected in the beginning of such an enterprise.

On the Atlantic side the performance of what the contract required appears not to have been so fully rendered during the first year; but one trip a month each way was attempted, and that was attended with some irregularities. But the contract seems to have contemplated the probabilitiy of partial performance, by providing in express terms for partial payment. With 1850 the semi-monthly service was commenced; but it is of little use, and will continue to be so until the second monthly trip is provided on the Pacific.

Delays and irregularities have occurred in the land transportation across the isthmus. But it is believed that these will, in a great measure, cease under the supervision exercised by the local and travelling agents whom I have felt it my duty to assign to this particular service, and under the promptings to a better performance of their obligations which have been given to the New Grenadian authorities through our diplomatic agents.

It may not be deemed inappropriate to reiterate in this communication certain views expressed by me in my annual report to the President: That whatever course Congress shall resolve upon in continuing or abandoning the policy of providing for the establishment and increase of a steam naval marine, through the agency of private enterprise, in the mode required by



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the contracts under consideration, whereby the mails are made an incidental object, and the cost is defrayed out of the public treasury, in view of the great national interests which were supposed to be thus promoted and protected, I trust that no change will be made that will cast the expense of these steamship lines upon the postage revenue. Such a course will greatly embarrass the operations of the department, defeat the present system of sustaining the mails within the country, and put an end to the extension of its accommodations and the reduction of postage. The cost alone of the inland mails in California and Oregon, and of the transportation over the isthmus, is large enough to absorb all the revenue arising from the correspondence with our Pacific possessions; and it will probably be the case for some time that no balance will be received from it to contribute to the support of the ocean steam lines, or to apply to any other purpose.

I am, very respectfully, your obedient servant,

J. COLLAMER.

Hon. THOS. J. RUSK,

*Chairman Committee on the Post Office and Post Roads, Senate.*

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# A.

*Synopsis of the contracts made by the Secretary of the Navy for the transmission of the mails, by steamships, between New York and New Orleans, via Havana, and between Havana and Panama, and between New York and Liverpool.*

| Made by— | Made for— | Transferred to— | Annual compensation. |
|---|---|---|---|
| Albert G. Sloo, of the city of Cincinnati, Ohio, on the 20th of April, 1847, for the term of ten years from the date of commencement of service. | The establishment of a line of five steamships, of 1,500 tons burden each, to be built under the supervision of the naval constructor, and to be convertible into war steamers of the first class, with engines of not less than a thousand horse-power each—with privilege, on consent of the Secretary of the Navy, to make one of the ships of not less than 600 tons burden, with engines in proportion—to transport the United States mail from New York to New Orleans twice a month, and back, touching at Charleston, (if practicable,) Savannah, and Havana; and from Havana to Chagres and back twice a month; and to receive on board of each ship, and suitably accommodate, without charge to the United States government, an agent, to be appointed by the Postmaster General, who shall have charge of the mails to be transported therein, and shall provide safe and convenient apartments on board of said ships for said mails and agents. The mail service to be commenced by each ship as soon as it shall be ready therefor. Two of said ships to be completed by the 1st of October, 1848, and the whole line in full and entire operation by the 1st of October, 1849—subject to receive a naval commander and four midshipmen for each ship, and to be under the control of the Secretary of the Navy, and liable to be purchased by the government under an appraisement, &c. | George Law, Marshall O. Roberts, and Bowes R. McIlvaine, of the city of New York, on the 17th day of August, 1847. | $200,000 on full performance, and a proportional part thereof for partial performance. |
| Arnold Harris, of the Sate of Arkansas, on the 16th day day of November, 1847, for the term of ten years from the 1st day of October, 1848. | The transportation of the mail from Panama to Astoria, or to such other port as the Secretary of the Navy may select, in the Territory of Oregon, once a month each way, so as to connect with the mail from Havana to Chagres across the isthmus; and for that purpose to furnish not less than three sea-steamers—two of not less than 1,000 tons burden, and the other of not less than 600 tons burden—to be built under inspectors selected by the Navy Department, convertible | William H. Aspinwall, of the city of New York, on the 19th day of November, 1847. | $199,000. |



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| Made by— | Made for— | Transferred to— | Annual compensation. |
|---|---|---|---|
| | into war steamers, with right to the Navy Department to control them and direct their repairs, and subject to be taken by the United States, for their use, on appraisement. Said steamers to be approved or rejected before leaving the port of New York, and to sail from said port, unless detained by the Navy Department, on or before the 1st of October, 1848. Each steamer to convey, and suitably accommodate and support, a government agent free of charge, and to touch at one or two intermediate points on the coast of Oregon, as the Navy Department shall direct, with privilege to the contractor to touch at such other ports as he may select. | | |
| | *Modification of the above, by order of the Secretary of the Navy, under date of June* 10, 1848. | | |
| | The steamers to proceed no further north than San Francisco. The mail service to Oregon to be performed, in connexion with the steamers, in suitable sailing vessels, to the mouth of Kalumet river, in lieu of Astoria, with the reserved right of the Navy Department to require the steamers to go to Astoria, the Straits of Fuca, or other point to be selected on the coast of Oregon. In consideration of which, the steamers are to touch, free of charge, at the three points occupied by the United States squadron, or at such ports on the west coast south of Oregon, not exceeding three in number, as may be required by the Navy Department, after the restoration of peace with Mexico. | | |
| Edward K. Collins and his associates, James Brown and Stewart Brown, of the city and State of New York, on the 1st day of November, 1847, for the term of ten years from the | The construction of five steamships, not less than 2,000 tons each, nor less than 1,000 horse-power each, or 33 cubic feet of cylinder to every 100 tons register, of sufficient strength for war purposes, and convertible into war steamers of the first class—to be built under the inspection of a naval constructor. Said ships to carry, accommodate, and subsist four passed midshipmen, to be detailed by the Navy Department, to serve as watch officers, and one agent, to be | ..... | $385,000. |

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date of commencement of service.

Commencement of service postponed by act of Congress of March 3, 1849.

appointed by the Postmaster General, who is to have charge of the mails; and to convey in said ships, in proper apartments to be provided for them, all mails from New York to Liverpool, and from Liverpool to New York. Said mails to be carried twice each month during eight months in the year, and once a month during four months in the year. One of said ships to be ready to take the mail on the 1st of May, 1849, (postponed by act of Congress till 1st of June, 1850,) and the three others as soon thereafter as each may be required to take its place in the line; and the fifth shall be commenced and built as early as may be practicable thereafter. When not employed in the mail service, to be subject to the order of the Navy Department for carrying despatches, at a fair compensation, to be agreed upon; also, subject to be taken for the exclusive use of the service of the United States, at such price as shall be determined by appraisers—two to be selected by the Secretary of the Navy and two by Collins and his associates, which four shall select a fifth in case of disagreement.



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B.

*Statement of mail service performed under the contracts of Law & Co. with the Secretary of the Navy on the going-trips to Chagres.*

| By what vessel. | When left New York. | When arrived at Charleston. | When left Charleston. | When arrived at Savannah. | When left Savannah. | When arrived at Havana. | When left Havana. | When arrived at Chagres from Havana. | When arrived at New Orleans. | When left New Orleans for Chagres. | When arrived at Chagres from N. Orleans. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1848. | 1848. | 1848. | 1848. | 1848. | 1848. | 1848. | 1848. | 1848. | 1848. | 1848. |
| Falcon | Dec. 1 | Dec. 5 | Dec. 5 | Dec. 6 | Dec. 6 | Dec. 8 | Dec. 10 | ..... | Dec. 12 | Dec. 18 | Dec. 26 |
| | | | | | | 1849. | 1849. | 1849. | | | |
| Isthmus | Dec. 26 | ..... | ..... | ..... | ..... | Jan. 4 | Jan. 6 | Jan. 16 | ..... | ..... | ..... |
| | 1849. | 1849. | 1849. | 1849. | 1849. | | | | 1849. | 1849. | 1849. |
| Falcon | Feb. 1 | Feb. 4 | Feb. 4 | Feb. 4 | Feb. 4 | Feb. 8 | Feb. 9 | Feb. 14 | ..... | ..... | ..... |
| Isthmus | ..... | ..... | ..... | ..... | ..... | ..... | Feb. 10 | March 3 | ..... | ..... | ..... |
| Falcon | March 8 | March 11 | March 11 | ..... | ..... | March 15 | March 15 | ..... | March 19 | March 21 | March 26 |
| Isthmus | ..... | ..... | ..... | ..... | ..... | ..... | April 11 | ..... | April 14 | ..... | ..... |
| Falcon | April 19 | April 22 | April 22 | April 22 | April 22 | April 27 | April 27 | May 2 | ..... | ..... | ..... |
| Isthmus | ..... | ..... | ..... | ..... | ..... | ..... | April 27 | ..... | May 2 | ..... | ..... |
| Isthmus | ..... | ..... | ..... | ..... | ..... | ..... | May 12 | ..... | May 15 | ..... | ..... |
| Falcon | May 26 | May 29 | May 29 | ..... | ..... | June 2 | June 1 | ..... | June 7 | ..... | ..... |
| Isthmus | ..... | ..... | ..... | ..... | ..... | ..... | June 2 | June 11 | ..... | ..... | ..... |
| Isthmus | ..... | ..... | ..... | ..... | ..... | ..... | June 20 | ..... | June 28 | ..... | ..... |
| Falcon | June 28 | July 2 | July 2 | July 2 | July 2 | July 5 | July 6 | ..... | July 9 | July 13 | July 19 |
| Falcon | Aug. 27 | Aug. 31 | Aug. 31 | Aug. 31 | Aug. 31 | Sept. 3 | Sept. 3 | ..... | Sept. 6 | Sept. 12 | Sept. 18 |
| Ohio | Sept. 20 | Sept. 24 | Sept. 24 | Sept. 24 | Sept. 24 | Sept. 27 | Sept. 27 | ..... | Sept. 30 | ..... | ..... |
| Ohio | Oct. 16 | Oct. 20 | Oct. 20 | Oct. 20 | Oct. 20 | Oct. 24 | Oct. 24 | ..... | Oct. 27 | ..... | ..... |
| Falcon | ..... | ..... | ..... | ..... | ..... | ..... | Oct. 24 | Oct. 29 | ..... | ..... | ..... |
| Ohio | Nov. 13 | Nov. 16 | Nov. 16 | Nov. 16 | Nov. 16 | Nov. 19 | Nov. 20 | ..... | Nov. 22 | ..... | ..... |
| Falcon | ..... | ..... | ..... | ..... | ..... | ..... | Nov. 20 | Nov. 25 | ..... | ..... | ..... |

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| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Falcon | | | | | | | Dec. 4 | | Dec. 8 | | | |
| Ohio | Dec. 13 | Dec. 16 | Dec. 16 | Dec. 16 | Dec. 16 | Dec. 19 | Dec. 19 | | Dec. 23 | | | |
| Falcon | | | | | | | Dec. 21 | Dec. 26 | | | | |
| | 1850. | 1850. | 1850. | 1850. | 1850. | 1850. | 1850. | 1850. | 1850. | 1850. | 1850. | |
| Ohio | Jan. 12 | | | | | Jan. 20 | Jan. 20 | | Jan. 24 | | | |
| Falcon | | | | | | | Jan. 20 | Jan. 26 | | | | |
| Georgia | Jan. 28 | Jan. 30 | Jan. 31 | Jan. 31 | Jan. 31 | Feb. 3 | Feb. 3 | | Feb. 6 | Feb. 12 | Feb. 18 | |
| Falcon | | | | | | | Feb. 3 | Feb. 8 | | | | |
| Ohio | Feb. 13 | Feb. 17 | Feb. 17 | Feb. 17 | Feb. 17 | Feb. 20 | Feb. 21 | | Feb. 24 | Feb. 28 | March 6 | |
| Falcon | Feb. 28 | March 4 | March 4 | March 4 | March 4 | March 8 | March 9 | | March 13 | | | |
| Georgia | March 13 | March 17 | March 17 | March 17 | March 17 | March 20 | March 22 | March 27 | | | | |
| Falcon | | | | | | | March 21 | | March 25 | | | |
| Ohio | March 28 | April 1 | April 1 | April 2 | April 2 | April 4 | April 6 | | April 9 | | | |
| Falcon | | | | | | | April 5 | April 10 | | | | |
| Georgia | April 13 | April 16 | April 16 | April 16 | April 16 | April 19 | April 19 | April 25 | | | | |
| Falcon | | | | | | | April 20 | | April 23 | | | |
| Ohio | April 27 | April 30 | April 30 | May 1 | May 1 | May 3 | May 4 | | May 8 | | | |
| Falcon | | | | | | | May 6 | May 11 | | | | |
| Georgia | May 13 | May 16 | May 16 | May 16 | May 16 | May 19 | May 21 | May 25 | | | | |
| Falcon | | | | | | | May 22 | | May 25 | | | |
| Ohio | May 28 | May 31 | May 31 | May 31 | May 31 | June 4 | June 5 | | June 8 | | | |
| Falcon | | | | | | | June 4 | June 9 | | | | |
| Georgia | June 13 | June 16 | June 16 | June 16 | June 16 | June 19 | June 20 | | | | | |
| Falcon | | | | | | | June 20 | | June 28 | | | |



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C.

*Statement of mail service performed under the contracts of Law & Co. with the Secretary of the Navy on the return-trips from Chagres.*

| By what vessel. | When left Chagres. | When left New Orleans. | When arrived at Havana. | When left Havana. | When arrived at Charleston. | When left Charleston. | When arrived at Savannah. | When left Savannah. | When arrived at New York. |
|---|---|---|---|---|---|---|---|---|---|
| | 1849. | 1849. | 1849. | 1849. | | | | | 1849. |
| Falcon | Jan. 1 | Jan. 18 | Jan. 17 | Jan. 18 | *a* | *a* | *a* | *a* | Jan. 24 |
| Isthmus | Jan. 28 | ..... | Feb. 4 | ..... | ..... | ..... | ..... | ..... | ..... |
| Falcon | Feb. 17 | ..... | Feb. 24 | Feb. 24 | ..... | ..... | ..... | ..... | March 5 |
| Isthmus | March 9 | ..... | March 15 | ..... | ..... | ..... | ..... | ..... | ..... |
| Falcon | April 1 | ..... | April 6 | April 8 | ..... | ..... | ..... | ..... | April 14 |
| Isthmus | ..... | April 2 | April 6 | ..... | ..... | ..... | ..... | ..... | ..... |
| Isthmus | ..... | April 22 | April 26 | ..... | ..... | ..... | ..... | ..... | ..... |
| Falcon | May 4 | ..... | May 12 | May 12 | ..... | ..... | ..... | ..... | May 17 |
| Isthmus | ..... | May 6 | May 9 | ..... | ..... | ..... | ..... | ..... | ..... |
| Isthmus | ..... | May 29 | June 2 | ..... | ..... | ..... | ..... | ..... | ..... |
| Falcon | ..... | June 11 | June 14 | June 14 | ..... | ..... | ..... | ..... | June 19 |
| Isthmus | June 13 | ..... | June 20 | b June 20 | ..... | ..... | ..... | ..... | July 18 |
| Falcon | July 28 | Aug. 9 | Aug. 11 | Aug. 12 | ..... | ..... | ..... | ..... | Aug. 17 |
| Falcon | Sept. 27 | c Oct. 6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Ohio | ..... | Oct. 4 | Oct. 7 | Oct. 8 | ..... | ..... | ..... | ..... | Oct. 13 |
| Falcon | Oct. 13 | ..... | Oct. 19 | ..... | ..... | ..... | ..... | ..... | ..... |
| Ohio | ..... | Oct. 31 | Nov. 4 | Nov. 5 | ..... | ..... | ..... | ..... | Nov. 10 |
| Falcon | Oct. 30 | Nov. 18 | Nov. 17 | ..... | ..... | ..... | ..... | ..... | ..... |
| Falcon | Nov. 28 | ..... | Dec. 2 | ..... | ..... | ..... | ..... | ..... | ..... |
| Ohio | ..... | Nov. 30 | Dec. 8 | Dec. 4 | ..... | ..... | ..... | ..... | Dec. 9 |
| | | | 1850. | 1850. | | | | | 1850. |
| Ohio | ..... | Dec. 30 | Jan. 3 | Jan. 3 | ..... | ..... | ..... | ..... | Jan. 9 |



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D.

*Statement of mail service performed under the contract of William H. Aspinwall with the Secretary of the Navy from Panama to Oregon.*

| By what vessel. | When left Panama. | When arrived at San Diego. | When left San Diego. | When arrived at Monterey. | When left Monterey. | When arrived at San Francisco. | When left San Francisco for Astoria in sailing vessels. | When arrived at San Francisco from Astoria in sailing vessels. |
|---|---|---|---|---|---|---|---|---|
| | 1849. | *g*1849. | *g*1849. | *g*1849. | *g*1849. | 1849. | 1849. | 1849. |
| *a* California | Jan. 31 | ..... | ..... | ..... | ..... | Feb. 28 | ..... | ..... |
| *b* Oregon | Mar. 18 | ..... | ..... | ..... | ..... | April 1 | ..... | ..... |
| *c* ..... | April — | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Sailing vessel | ..... | ..... | ..... | ..... | ..... | ..... | June 6 | Aug. 8 |
| *d* Panama | May 18 | ..... | ..... | ..... | ..... | June 8 | ..... | ..... |
| Sailing vessel | ..... | ..... | ..... | ..... | ..... | ..... | July 8 | Sept. 21 |
| Oregon | May 23 | ..... | ..... | ..... | ..... | June 17 | ..... | ..... |
| California | June 25 | ..... | ..... | ..... | ..... | July 16 | ..... | ..... |
| Panama | July 29 | ..... | ..... | ..... | ..... | Aug. 19 | ..... | ..... |
| Sailing vessel | ..... | ..... | ..... | ..... | ..... | ..... | Aug. 19 | Oct. 21 |
| Oregon | Aug. 28 | ..... | ..... | ..... | ..... | Sept. 18 | ..... | ..... |
| Sailing vessel | ..... | ..... | ..... | ..... | ..... | ..... | Sept. 30 | Nov. 10 |
| California | Sept. 17 | ..... | ..... | ..... | ..... | Oct. 9 | ..... | ..... |
| Sailing vessel | ..... | ..... | ..... | ..... | ..... | ..... | Oct. 24 | Dec. 21 |
| *e* Unicorn | Oct. 1 | ..... | ..... | ..... | ..... | Oct. 31 | ..... | ..... |
| Panama | Oct. 10 | ..... | ..... | ..... | ..... | Oct. 31 | ..... | ..... |
| Sailing vessel | ..... | ..... | ..... | ..... | ..... | ..... | Nov. 24 | ..... |
| Sailing vessel | ..... | ..... | ..... | ..... | ..... | ..... | Nov. 27 | ..... |
| Oregon | Nov. 10 | ..... | ..... | ..... | ..... | Dec. 2 | ..... | ..... |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Sailing vessel | | | | | | | Dec. 5 |
| California | Dec. 6 1850. | | | | | Dec. 28 1850. | |
| Sailing vessel | | | | | | | Jan. 3 |
| Panama | Jan. 1 | | | | | *f* Jan. 18 | |
| *e* Unicorn | Jan. 12 | | | | | *f* Feb. 8 | |
| Oregon | Feb. 5 | Feb. 20 | Feb. 20 | Feb. 21 | Feb. 21 | Feb. 22 | |
| Sailing vessel | | | | | | | Feb. 25 |
| California | Mar. 2 | Mar. 22 | Mar. 22 | Mar. 25 | Mar. 25 | Mar. 26 | |
| Sailing vessel | | | | | | | Mar. 27 |
| *e* Tennessee | Mar. 24 | | | | | *f* April 13 | |
| Panama | April 1 | April 19 | April 19 | April 21 | April 21 | April 22 | |
| Sailing vessel | | | | | | | April 25 |
| *e* Caroline | April 16 | | | | | May 7 | |
| Oregon | May 1 | | | | | | |
| *e* Tennessee | May 30 | | | | | | |
| California | June 1 | | | | | | |
| *e* Panama | June 15 | | | | | | |

*a* Left New York October 3, 1848, and took mails for Rio Janeiro, Valparaiso, Lima, Panama, &c.

*b* Left New York December 8, 1848, and took mails as per California above.

*c* The desertion of the California by her officers and crew at San Francisco on first trip prevented her from being in place at Panama to perform the April trip.

*d* Left New York first in November, sustained an injury at sea, and was obliged to return to New York and repair. Left again February 17, 1849, and took mails for Rio Janeiro, Valparaiso, Lima, &c.

*e* Extra trips.

*f* Understood to be.

*g* No specific information received as to times of arrival and departure; but it appears that Monterey was omitted on the fourth trip from Panama to San Francisco, but under circumstances which induced the special agent at San Francisco to excuse the omission. The other supplies, it is presumed, were made.



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## E.

*Statement of mail service performed under the contract of William H. Aspinwall with the Secretary of the Navy from San Francisco to Panama.*

| By what vessel. | When left. San Francisco. | When arrived at Monterey. | When left Monterey. | When arrived at San Diego. | When left San Diego. | When arrived at Panama. | Remarks. |
|---|---|---|---|---|---|---|---|
| | 1849. | 1849. | 1849. | 1849. | 1849. | 1849. | |
| (*) | March — | (†) | (†) | (†) | (†) | ..... | No return-trips from Astoria have been reported. The postmaster of Astoria left for the mines in California early in the year. |
| Oregon | April 12 | ..... | ..... | ..... | ..... | May 4 | |
| California | May 1 | ..... | ..... | ..... | ..... | May 23 | |
| Panama | June 19 | ..... | ..... | ..... | ..... | July 12 | |
| Oregon | July 2 | ..... | ..... | ..... | ..... | July 21 | |
| California | August 2 | ..... | ..... | ..... | ..... | August 24 | |
| Panama | September 1 | ..... | ..... | ..... | ..... | September 22 | |
| Oregon | October 1 | ..... | ..... | ..... | ..... | October 24 | |
| California | November 2 | ..... | ..... | ..... | ..... | November 22 | |
| Panama‡ | November 15 | ..... | ..... | ..... | ..... | December 4 | |
| Unicorn | December 1 | ..... | ..... | ..... | ..... | December 28 | |
| | 1850. | 1850. | 1850. | 1850. | 1850. | 1850. | |
| Oregon | January 1 | ..... | ..... | ..... | ..... | January 23 | |
| California | January 15 | January 16 | January 16 | January 18 | January 18 | February 4 | |
| Panama | February 1 | ..... | ..... | ..... | ..... | February 23 | |
| Oregon | March 1 | ..... | ..... | ..... | ..... | March 20 | |
| California | April 1 | April 2 | April 2 | April 4 | April 4 | April 23 | |
| Tennessee | April 21 | ..... | ..... | ..... | ..... | May 11 | |
| Panama | May 1 | ..... | ..... | ..... | ..... | May 21 | |
| Oregon | June 1 | ..... | ..... | ..... | ..... | June 22 | |

* The desertion of the California by her officers and crew immediately on her arrival at San Francisco prevented the return-trip of March from being made.

† See note (marked *g*) to statement from Panama to Oregon.

‡ An extra trip.



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F.

*Statement of the mail service performed under the contract of E. K. Collins and associates.*

| By what vessel. | When left New York. | When arrived at Liverpool. | When left Liverpool. | When arrived at New York. |
|---|---|---|---|---|
| Atlantic..... | 1850.—April 27..... | 1850.—May 10..... | 1850.—May 29..... | 1850.—June 9. |
| Pacific..... | May 25..... | June 6. | | |





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*List of steam-vessels in her Majesty's navy available for war purposes; showing their class, power, and whether in commission, ordinary, fitting, or building.*

| Class and names of vessels. | Tonnage. | Horse-power. | Remarks. |
|---|---|---|---|
| *Line-of-battle.* | | | |
| Blenheim | 1,747 | 450 | In commission. |
| Ajax | 1,761 | 450 | Fitting. |
| Hogue | 1,750 | 450 | do |
| Edinburgh | 1,772 | 450 | do |
| *Frigates.* | | | |
| Arrogant | 1,861 | 360 | do |
| Amphion | 1,474 | 300 | In commission. |
| *Steam-frigates—First class.* | | | |
| Terrible | 1,850 | 800 | do |
| Retribution | 1,641 | 800 | Ready. |
| Simoom | 1,980 | 650 | Building. |
| Vulcan | 1,747 | 350 | do |
| Penelope | 1,616 | 650 | In commission. |
| Termagant | 1,527 | 620 | Ready. |
| Euphrates | 1,527 | 620 | Building. |
| Dauntless | 1,453 | 580 | do |
| *Steam-frigates—Second class.* | | | |
| Birkenhead | 1,400 | 556 | Ready. |
| Megaera | 1,391 | 350 | Building. |
| Greenock | 1,413 | 546 | do |
| Sidon | 1,329 | 560 | In commission. |
| Odin | 1,326 | 560 | do |
| Leopard | 1,326 | 560 | Building. |
| Sampson | 1,299 | 467 | In commission. |
| Dragon | 1,270 | 560 | do |
| Centaur | 1,270 | 540 | do |
| Gladiator | 1,210 | 430 | do |
| Cyclops | 1,195 | 320 | Ready. |
| Vulture | 1,191 | 470 | In commission. |
| Fire-brand | 1,190 | 410 | do |
| *Sloops—First class.* | | | |
| Furious | 1,287 | 400 | Building. |
| Magicienne | 1,255 | 400 | do |
| Valorus | 1,255 | 400 | do |
| Tiger | 1,221 | 400 | do |
| Basilisk | 998 | 400 | do |
| Desperate | 992 | 400 | do |
| Buzzard | 978 | 400 | do |
| Argus | 975 | 400 | do |
| Miranda | 1,089 | 250 | do |
| Archer | 970 | 250 | do |
| Wasp | 970 | 250 | do |
| Virago | 1,059 | 360 | Fitting. |
| Cormorant | 1,057 | 300 | do |
| Sphynx | 1,056 | 500 | do |
| Driver | 1,056 | 280 | do |
| Spiteful | 1,054 | 280 | do |
| Niger | 997 | 400 | do |

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*List of steam-vessels in her Majesty's navy, &c.*—Continued.

| Class and names of vessels. | Tonnage. | Horse-power. | Remarks. |
|---|---|---|---|
| *Sloops—First class*—Continued. | | | |
| Conflict | 992 | 400 | Fitting. |
| Growler | 1,059 | 280 | do |
| Scourge | 1,124 | 420 | In commission. |
| Bulldog | 1,124 | 500 | do |
| Inflexible | 1,124 | 878 | do |
| Fury | 1,124 | 515 | do |
| Gorgon | 1,111 | 320 | do |
| Rosamond | 1,059 | 287 | do |
| Devastation | 1,059 | 460 | do |
| Styx | 1,057 | 280 | do |
| Geyser | 1,054 | 280 | do |
| Vixen | 1,054 | 280 | do |
| Vesuvius | 970 | 280 | do |
| Stromboli | 967 | 280 | do |
| *Sloops—second class.* | | | |
| Encounter | 895 | 360 | Fitting. |
| Hecla | 817 | 240 | do |
| Medea | 835 | 350 | In commission. |
| Hydra | 818 | 220 | do |
| Hecate | 817 | 240 | do |
| Rattler | 888 | 200 | Ready. |
| Trident | 850 | 850 | do |
| Hermes | 830 | 220 | do |
| Salamander | 818 | 220 | do |
| Phenix | 809 | 260 | do |
| *Sloops—third class.* | | | |
| Ardent | 801 | 200 | In commission. |
| Polyphemus | 801 | 200 | do |
| Alecto | 800 | 200 | do |
| Acheron | 722 | 160 | do |
| Volcano | 720 | 140 | do |
| Prometheus | 796 | 200 | Fitting. |
| Janus | 763 | 200 | do |
| *Gun-vessels.* | | | |
| Grappler | 559 | 220 | In commission. |
| Firefly | 550 | 220 | do |
| Blazer | 527 | 136 | do |
| Tartarus | 523 | 136 | do |
| Flamer | 496 | 120 | do |
| Spitfire | 430 | 140 | do |
| Lucifer | 387 | 180 | do |
| Porcupine | 382 | 140 | do |
| Bloodhound | 378 | 150 | do |
| Avon | 361 | 160 | do |
| Gleaner | 351 | 130 | do |
| Harpy | 345 | 200 | do |
| Lizard | 345 | 150 | do |
| Torch | 345 | 150 | do |
| Jackall | 340 | 150 | do |
| Comet | 301 | 80 | do |
| Kite | 300 | 170 | do |
| Locust | 284 | 100 | do |
| Sharpshooter | 483 | 202 | do |

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*List of steam-vessels in her Majesty's navy, &c.*—Continued.

| Class and names of vessels. | Tonnage. | Horse-power. | Remarks. |
|---|---|---|---|
| *Gun-vessels*—Continued. | | | |
| Rifleman | 488 | 202 | Fitting. |
| Myrmidon | 370 | 150 | do |
| Columbia | 361 | 100 | do |
| Shearwater | 343 | 160 | do |
| Teazer | 301 | 40 | do |
| Pluto | 365 | 100 | Ready. |
| Minx | 301 | 100 | do |
| Reynard | 516 | 60 | Building. |
| Plumper | 484 | 60 | do |

*Total horse-power available for war purposes.*

| | |
|---|---|
| 4 line-of-battle ships | 1,800 |
| 28 frigates | 11,759 |
| 48 sloops | 14,862 |
| 28 gun-vessels | 3,906 |
| | 32,327 |

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*Packets, yachts, tenders, &c., of her Majesty's steam navy.*

| Class and names of vessels. | Tonnage. | Horse-power. | Remarks. |
|---|---|---|---|
| *Packets.* | | | |
| Antelope | 650 | 260 | In commission. |
| Oberon | 650 | 260 | do |
| Triton | 650 | 260 | do |
| *Troop-ships.* | | | |
| Dee | 704 | 200 | do |
| Rhadamanthus | 813 | 220 | do |
| Alban | 405 | 100 | do |
| *Tenders.* | | | |
| Lightning | 296 | 100 | do |
| Meteor | 296 | 100 | do |
| Dasher | 260 | 100 | do |
| Cuckoo | 234 | 100 | do |
| Wildfire | 186 | 75 | do |
| Dwarf | 164 | 90 | do |
| Rocket | 70 | 20 | do |
| Bee | 42 | 10 | do |
| Dover | 224 | 90 | Fitting. |
| Fearless | 165 | 76 | Ready. |
| *Yachts.* | | | |
| Victoria and Albert | 1,034 | 430 | In commission. |
| Fairy (tender) | 317 | 128 | do |
| Black Eagle | 540 | 260 | do |
| Undine (tender) | 290 | 110 | do |
| Fire Queen (tender) | 313 | 120 | do |
| *Tugs.* | | | |
| Echo | 295 | 140 | do |
| Confiance | 295 | 100 | do |
| African | 295 | 90 | do |
| Monkey | 212 | 80 | do |
| Charon | 125 | 60 | do |
| *Colonial department, Africa.* | | | |
| Albert | 457 | 70 | do |
| Snap | | 40 | do |
| *Malta.* | | | |
| Wee Pet | | 10 | do |
| *Lakes of Canada.* | | | |
| Cherokee | 750 | 200 | do |
| Minos | 406 | 90 | do |
| Mohawk | 174 | 60 | do |
| *Packets.* | | | |
| Medina | 889 | 312 | Liverpool. |
| Medusa | 889 | 312 | do |
| Merlin | 889 | 312 | do |

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*Packets, yachts, tenders, &c.*—Continued.

| Class and names of vessels. | Tonnage. | Horse-power. | Remarks. |
|---|---|---|---|
| *Packets*—Continued. | | | |
| Urgent | 561 | 290 | Liverpool. |
| Redwing | 139 | 60 | do |
| Otter | 237 | 120 | Holyhead. |
| Doterel | 237 | 100 | do |
| Zephyr | 237 | 100 | do |
| Sprightly | 234 | 100 | do |
| Prospero | 249 | 144 | Pembroke. |
| Adder | 241 | 100 | do |
| Jasper | 233 | 100 | do |
| Pigmy | 227 | 100 | do |
| Advice | 197 | 130 | do |
| Pike | 111 | 50 | Port Patrick. |
| Asp | 112 | 50 | do |
| Garland | 292 | 120 | Dover. |
| Violet | 292 | 120 | do |
| Onyx | 290 | 120 | do |
| Princess Alice | 270 | 120 | do |
| Widgeon | 164 | 90 | do |
| Ariel | 149 | 70 | Old packets. |
| Swallow | 133 | 70 | do |
| Myrtle | 116 | 50 | do |
| Banshee | 670 | 350 | |
| Caradoc | 662 | 350 | |
| St. Columba | 655 | 350 | |
| Llewellyn | 654 | 350 | |
| Vivid | 352 | 160 | |

*Total horse-power.*

| | |
|---|---|
| 8 troop-ships | 520 |
| 10 tenders | 761 |
| 5 yachts | 1,048 |
| 11 tugs, &c | 740 |
| 32 packets | 6,620 |
| | 9,689 |

*Horse-power of engines unappropriated and in progress.*

| Horse-power of engines unappropriated. | | Horse-power of engines in progress, vessels not designated. | |
|---|---|---|---|
| Simoom ....late screw | 780 | Brought forward | 2,926 |
| Vulcan.....do | 700 | Resolute | 400 |
| Megaera.....do | 556 | Barracouta | 300 |
| Forth.....do | 350 | Highflyer | 250 |
| Medea.....paddle | 220 | Brisk | 250 |
| Sydenham.....do | 220 | Cracker | 60 |
| Carron.....do | 100 | Hornet | 60 |
| Carried forward | 2,926 | Total | 4,246 |

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NAVY DEPARTMENT, *June* 21, 1850.

SIR: I have the honor to acknowledge the receipt of your letter of the 4th instant, enclosing a copy of the resolution of the Senate, adopted on the 27th ultimo, calling for information upon the subject of ocean mail steamers, and, in compliance therewith, submit the following papers, viz:

Copy of the contract with Arnold Harris for the transportation of the United States mail from Panama to Astoria, in Oregon, dated 16th November, 1847, and copy of assignment to Wm. H. Aspinwall, dated 19th November, 1847.

Copy of additional contract with Arnold Harris, dated 1st day of September, 1848.

Copy of the deed of trust conveying the steamships "California," "Oregon," and "Panama" in trust, dated the 4th day of September, 1848, to secure the advances made under the act of Congress approved on the 3d day of August, 1848.

Copy of the letter of the Secretary of the Navy to Wm. H. Aspinwall, dated June 10th, 1848, agreeing to certain modifications of the contract with Arnold Harris.

Copies of the letters of the Secretary of the Navy to Wm. H. Aspinwall, dated January 2 and 4, 1850, relative to the mail service from Panama to Oregon.

Copies of the accounts, Nos. 1 and 2, settled with Wm. H. Aspinwall, assignee, for mail service from October 1, 1848, to 31st March, 1850.

Copy of the contract with A. G. Sloo for the transportation of the United States mail from New York to New Orleans, touching at Charleston, (if practicable,) Savannah, and Havana, and from Havana to Chagres, dated 20th of April, 1847.

Copy of assignment by A. G. Sloo to George Law, Marshall O. Roberts and Bowes R. McIlvaine, dated 3d of September, 1847.

Copy of the deed of trust conveying the steamships "Ohio" and "Georgia" in trust, dated 9th of September, 1848, to secure the advances made under the act of Congress approved on the 3d of August, 1848.

Copy of A. G. Sloo's letter to Commodore M. C. Perry, assigning reasons for the delay in completing his contract. The letter is dated October 15, 1849.

Copy of the contract with E. K. Collins and his associates for the transportation of the United States mail between New York and Liverpool, dated 1st of November, 1847, with schedules A and B.

Copy of assignment by E. K. Collins and his associates to five trustees, dated 30th of December, 1847.

Copy of deed of trust conveying the steamships "Atlantic" and "Pacific" in trust, dated 6th of February, 1849, to secure the advances made under the act of Congress approved on the 3d of August, 1848.

Copy of agreement modifying the contract with E. K. Collins and his associates, so as to postpone the commencement of the mail service therein stipulated to be performed until the 1st of June, 1850.

Copies of deeds of trust conveying the steamships "Arctic" and "Baltic" in trust, dated 7th of March and 26th of March, 1850, to secure the advances made under the act of Congress approved on the 3d of August, 1848.

Copy of Commodore Perry's report in relation to the steamships intended

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for the transportation of the United States mail between New York and Liverpool, dated October 2, 1849.

Copy of the report of Commodore M. C. Perry and Commodore R. B. Cunningham, dated the 12th of June, 1850, made under the Senate's resolution of 27th of May, 1850.

Copy of a letter of Commander Cunningham, dated June 15, 1850, relative to the contracts for steamships for the transportation of the United States mails.

Copy of a letter from Lieutenant David D. Porter to Commodore Perry, dated June —, 1850, relative to the engineers and crews on board the mail steamships.

The three steamships under the contract for the Panama and Oregon line were accepted before the close of the year 1848. They have been, and continue to be, actively employed, with slight irregularities, in the service required by the law establishing the line, and under the instructions from this department. Payment for service performed by this line from October 1, 1848, to March 31, 1850, has been claimed; and the accounts have been adjusted and paid, after deducting the amount advanced under the act of August 3, 1848, to enable the contractor to complete his vessels, and certain amounts withheld for non-performance of the distance from San Francisco to Kalumet river, &c. The amount paid under the contract with Arnold Harris is $262,569 45.

The steamships contracted for with A. G. Sloo, have not been completed in the manner and at the times stipulated in the contract. But one, the "Georgia," has been accepted under the contract. No change has taken place since the date of my annual report in relation to the New Orleans and Chagres line, except that the steamship "Georgia" has been inspected and received under the instructions of this department. The "Georgia" has been placed on the line, and is in the performance of service under the contract. No payment for service under this contract has been made—no advance has been made since the 4th of March, 1849. Previous to that date, there was advanced to the contractor and assignees the sum of $290,000. I have declined making further advances on account of this line of steamships.

Under the contract with E. K. Collins and his associates for the Liverpool line of steamships, but two of the five contracted for have been completed and accepted under the contract—the "Atlantic" and the "Pacific." They have been placed upon the line, and it is believed they are in performance of mail service. No payment for service performed by the Liverpool line of mail steamships has been made. The amount advanced to E. K. Collins and his associates, under the act of Congress of 3d of August, 1848, for the purpose of enabling the contractors to finish the steamships contracted for, is $317,500.

The department has been furnished with no reports showing the probable cost of the steamships required by the terms of the contracts, nor of those actually constructed; it is, therefore, unable to answer the requirements of the resolution under this head. The mail service is performed under the directions of the Post Office Department, which will be able to furnish more satisfactory statements than can be prepared by this department.

I respectfully refer to the following extracts from my annual report, dated December 1, 1849, as expressing fully the views and opinions entertained

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by the department in reference to the system of ocean steamers, as calculated to promote the interests of the navy:

"The law under which these vessels are constructed does not clearly and distinctly define the powers and rights of the government over them. While the proprietors have been willing to receive on board the passed midshipmen, they have, nevertheless, claimed the right to prescribe their duties and to assign them their positions; and while the passed midshipmen are received as watch-officers, the executive duties of the ship and her navigation may be confided to others, selected by the proprietors. I therefore urgently invite the attention of Congress to the law under which the contract was made, to the service in which the vessels are to be engaged, and to the condition of the contract itself, that, should it be deemed advisable to extend the terms, then it may regulate the whole subject by some distinct and unequivocal legislation.

"After a careful consideration of this subject, I cannot withhold the expression of an opinion adverse to embarking any further in the proposed union of public and private means in this system of ocean steamers, as calculated to promote the interest of the navy. Whatever may be the view which Congress may entertain as to the policy of transporting the United States mail, and affording facilities for the transportation of passengers and freight, in the manner proposed by such a system, I entertain a decided opinion that, if it should be regarded as the mode and manner which Congress has determined on for increasing the naval force of the United States, it will be found, in the end, entirely subversive of the object which it intends to promote. To the extent to which the present contracts have committed the faith of the government, and to the extent of the obligations under the contracts, they are, of course, strictly to be regarded and scrupulously to be performed. Yet, as a naval establishment, I deprecate any further extension of the system, as fraught with incalculable mischief to the navy, and involving immense expenditures of public money. All must appreciate the great importance of rapid, regular, and safe transmission of our mails to all quarters of the world; and all are sensible of the great commercial advantages that must result therefrom. The contracts already made, and the sums already appropriated, are fully adequate to a thorough test of the experiment. I believe, however, it is a subject that should, in the future, be left to the competition of private enterprise. I feel assured that, in the struggle, American enterprise and American industry will eventually be successful."

The opinions heretofore expressed, and referred to herein, have been confirmed by the experience of the last year; to which I have but to add, that so far as the contracts contemplated a union with the naval force of the country, and an improvement in the efficiency of our naval power, they have not and will not prove beneficial.

The vessels which have been completed and received under the contracts are now in the performance of a mere mail service, in nowise to be regarded as a naval service, and there is no necessary connexion between this department and such service. To render it successful and efficient, it should be placed under the Post Office Department, where it may be regulated so as to connect it with the postal arrangements of the government, both at

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home and abroad. A transfer of the whole system to the Post Office Department is most urgently recommended.

I have the honor to be, very respectfully, your obedient servant,

WM. BALLARD PRESTON.

Hon. THOMAS J. RUSK,
*Chairman of the Committee on the Post Office and Post Roads,*
*United States Senate.*

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This agreement, made the sixteenth day of November, anno Domini eighteen hundred and forty-seven, at the city of Washington, in the District of Columbia, between the United States of America, by the Secretary of the Navy thereof, and Arnold Harris, of the State of Arkansas, witnesseth:

That whereas, by an act of Congress, approved March 3, 1847, entitled "An act providing for the building and equipment of four naval steamships," it is made the duty of the Secretary of the Navy, in the fifth section thereof, to contract, on behalf of the government of the United States, for the transportation of the mail from Panama to such port as he may select in the Territory of Oregon, once a month each way, so as to connect with the mail from Havana to Chagres, across the isthmus; and whereas proposals for this service have been invited by advertisement from the Navy Department, dated May 4, 1847, and the offer of said Harris has been deemed advantageous for the United States: Now, therefore, it is agreed between the parties aforesaid, and the said Harris does hereby bind himself and his assigns, that he will transport the United States mail, as required by said act of Congress, and for the consideration hereafter named, from Panama to Astoria, in the Territory of Oregon, or to such other port in said Territory as the Navy Department may select, once a month each way, for the term of ten years from the first day of October, A. D. eighteen hundred and forty-eight; that to this end he will furnish not less than three sea-steamers, two of which shall be of not less than one thousand tons burden, and the other shall be of not less than six hundred tons burden, and all of them to be well constructed, suitable in all respects for the intended service, and to be approved or rejected, each of them, before leaving the port of New York, by competent inspectors, acting under direction of the Navy Department; that he will touch at one or two intermediate points on the coast of said Territory with said steamers aforesaid, when required so to do by the Secretary of the Navy, and that he may touch at such other ports as he may elect, without causing failure in performing the service: and that he will execute, during the continuance of this contract, such instructions as the Navy Department may deem it necessary and proper, from time to time, to give, for the proper care and preservation of the mails, and their prompt receipt and delivery at the points of departure and arrival herein indicated; that he will convey on board each of said steamers, and suitably accommodate and support, a government agent, free of charge: and that he will, in all respects, faithfully comply with the conditions of the act of Congress and the advertisement hereinbefore referred to. And the said Harris further agrees that the said line of steamers shall sail from New York, unless detained by orders from the Navy Department, on or before the first of October, A. D. eighteen hundred and forty-eight; that said

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steamers shall be so constructed as to be easily convertible into war steamers; that the Navy Department shall at all times exercise control over them, and shall at any time have the right to take them for the exclusive use and service of the United States, and to direct such changes in their machinery and internal arrangements as the said Secretary may require: the cost of such changes to be ascertained by the bills actually paid therefor, and the proper compensation for the value of the steamers, when so taken by the United States, to be determined by appraisers to be mutually chosen by the parties; on which basis and determination, payment shall be made for such changes on such steamers by the United States to said Harris, or to his assigns. And the United States, by the Secretary of the Navy aforesaid, in consideration of the premises, do hereby promise and agree to pay to the said Arnold Harris, contractor, or to his assigns, as a compensation for the service hereinbefore stipulated, the full sum of one hundred and ninety-nine thousand dollars per annum, payable quarter-yearly in the United States, upon the fair performance by the said Harris of the service hereinbefore stipulated, according to the just intent and meaning of this contract.

It is understood and agreed further, by the parties aforesaid, that this contract shall continue in force for the term of ten years from the first of October, eighteen hundred and forty-eight, unless annulled by Congress; and that Congress may, at any period during its coming session, direct it to cease, upon such conditions of equity and fairness as it may think it just towards the contractor to establish. And it is also understood and agreed that no payment is to be made under this contract at any time before Congress shall have made the appropriations necessary for that purpose; but payment shall be made according to such appropriations.

In testimony whereof, we hereunto place our hands and seals, the day and year above written.

J. Y. MASON, [L. S.]
*Secretary of the Navy.*
ARNOLD HARRIS. [L. S.]

Signed, sealed, and delivered in the presence of—
WM. H. DAVIDGE,
EDWIN CROSWELL.

I, Arnold Harris, the party mentioned in the preceding contract, for value received, do hereby fully and absolutely assign, transfer, and make over to William H. Aspinwall, of the city and State of New York, his executors, administrators, and assigns, the preceding contract, entered into between me and the Hon. J. Y. Mason, Secretary of the Navy of the United States, together with all my right, title, and interest in, to, and under the same, and all benefit and advantage to be derived from, or in consequence of, the same.

In testimony whereof, I have hereunto set my hand and affixed my seal, at the said city of New York, this nineteenth day of November, in the year eighteen hundred and forty-seven.

ARNOLD HARRIS. [L. S.]

Signed, sealed, and delivered in the presence of—
STANHOPE ENGLISH.

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Whereas, by an act of Congress approved August the third, one thousand eight hundred and forty-eight, the Secretary of the Navy is directed to advance to the contractor for the transportation of the mail of the United States between Panama and Astoria, or to his assignee, for the purpose of enabling him to finish the steamships contracted for in the said contractor's contract, made with the Secretary of the Navy under the act of the 3d March, 1847, the sum of twenty-five thousand dollars per month on each of said ships, after such ships shall have been launched, on certain conditions specified in said act; and whereas, by the act of Congress first herein mentioned, it is provided "that the contractor for the line from Panama to Astoria, as the condition of this advance, be required to stop and deliver and take mails at San Diego, San Francisco, and Monterey, in California, if required so to do by the Secretary of the Navy, with the concurrence of the Postmaster General;" and whereas Arnold Harris, of the State of Arkansas, became and is the contractor for the said lime from Panama to Astoria, and William H. Aspinwall is his assignee; and whereas, at the request of the said William H. Aspinwall and Arnold Harris, the Secretary of the Navy proposes to make to the said assignee such advances as are directed by said act of Congress to be made to him on the steamships for the line aforesaid; and whereas the said Harris and Aspinwall are willing to accept the same on the condition prescribed in the above-cited proviso: Now, in consideration of the premises, the said Arnold Harris doth hereby agree with John Y. Mason, Secretary of the Navy, acting for and in behalf of the United States, that he, the said Harris, and his assignee, in execution of the contract dated on the 16th November, 1847, for the transportation of the mail from Panama to Astoria, will, on each passage of the said steamships to and from Panama, once a month each way, cause them to "stop and deliver and take mails at San Diego, San Francisco, and Monterey, in California, if required so to do by the Secretary of the Navy, with the concurrence of the Postmaster General;" and the said Secretary of the Navy, on behalf of the United States, and by virtue of the act of Congress above referred to, agrees to make the advance on the terms and conditions prescribed by the said act.

Witness our hands and seals, the first day of September, in the year of our Lord one thousand eight hundred and forty-eight.

ARNOLD HARRIS, [L. S.]
J. Y. MASON, [L. S.]
*Secretary of the Navy.*

Signed, sealed, and delivered in presence of—
R. W. YOUNG.

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This indenture, made and entered into this fourth day of September, in the year one thousand eight hundred and forty-eight, between William H. Aspinwall, of the city of New York, of the first part, Prosper M. Wetmore, of the same city, of the second part, and the United States of America, by John Y. Mason, Secretary of the Navy, of the third part:

Whereas, by virtue of an act of Congress approved March 3, 1847, the Secretary of the Navy, on behalf of the United States, did, on the 16th day of November, 1847, enter into a contract with Arnold Harris for the transportation of the mail from Panama to Astoria, or some other point in

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Oregon Territory, in three steamships, convertible into steamships of war, which said contract the said Arnold Harris assigned to the said William H. Aspinwall by his written assignment; and whereas, by an act of Congress entitled "An act making appropriations for the naval service for the year ending the 30th June, 1849," approved on the 3d day of August, 1848, the Secretary of the Navy is directed to advance "to the contractor for the transportation of the mail between Panama and Astoria, or his assignee, for the purpose of enabling him to finish the steamships contracted for under his said contract, the sum of twenty-five thousand dollars per month on each of said ships, after such ships shall have been launched, but the money so to be advanced shall not exceed one year's compensation, stipulated for in the said contract, to be secured by a lien on said ships, in such manner as the Secretary of the Navy shall require, and the money so advanced shall be faithfully expended in finishing said ships to the satisfaction of the Secretary of the Navy;" and whereas, by a proviso to the said act making appropriation and giving authority as aforesaid, it is provided that the contractor for the line from Panama to Astoria, as the condition of the advance so to be made, be required to stop and deliver and take mails at San Diego, San Francisco, and Monterey, in California, if required so to do by the Secretary of the Navy, with the concurrence of the Postmaster General; and whereas the said Arnold Harris hath entered into, with the United States, by the Secretary of the Navy, a stipulation binding himself to stop and deliver and take mails at San Diego, San Francisco, and Monterey, in California, if required so to do by the Secretary of the Navy, with the concurrence of the Postmaster General; and whereas the said William H. Apinwall, assigneee as aforesaid, and under the contract aforesaid, has launched three steamships—called the "California," the "Oregon," and the "Panama"—which are yet unfinished; and whereas, to enable him to finish his said steamships, he has applied to the Secretary of the Navy for such monthly advances on the same as, by the virtue of the said act, the said Secretary of the Navy is authorized and directed to make, and is willing and desirous to secure the repayment or refunding of the same from the annual compensation stipulated to be paid for the said service by the said contract, by a lien on said ships, in the form of a deed of trust which has been required by the said Secretary of the Navy:

Now, this indenture witnesseth, that for and in consideration of the premises, and of the sum of one dollar, to him in hand paid before the sealing and delivery of these presents by the said Prosper M. Wetmore, party of the second part, to the said William H. Aspinwall, party of the first part, he doth bargain and sell and convey, by these presents, the said steamships, the "California," the "Oregon," and the "Panama," with all their tackle, apparel, and furniture, to have and to hold, to him the said Wetmore, or to his assigns: upon trust, nevertheless, that the said William H. Aspinwall is to retain possession of the said steamships, herein sold and conveyed, and to employ them, if they shall be accepted, in execution of the contract above referred to; and if, after the expiration of one year from the first day of October, 1848, or the commencement of the performance of the said service under said contract, being required thereto in writing by the Secretary of the Navy, the said William H. Aspinwall, or some other for him, shall have failed to repay in money, or to refund, out of the compensation for said service for one year, or out of the value of the said vessels, if, before the expiration of one year, the same shall be taken into the

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service of the United States, such outstanding balances, due and unpaid, or unrefunded, of such advances as the Secretary of the Navy may have made, prior to the first day of October, 1849, to the said Aspinwall, assignee as aforesaid, under the said act of Congress of the 3d of August, 1848, with such interest thereon as may have become legally due to the United States, then the said Wetmore, his executor, administrator, or assignee, being required so to do by the Secretary of the Navy of the United States, shall, after advertising for six months, in two newspapers published in the city of New York, the time and place of sale, proceed to sell at public auction, for cash, the said steamships, or such of them as may be necessary for the purposes of this deed, and out of the proceeds of said sale shall pay: first, the expenses of executing this trust; secondly, such unsatisfied balances of advances as may be due to the United States, as aforesaid; and the balance, if any, to the said Aspinwall, or his assignee: and upon the further trust, that if, at or before the expiration of one year from the commencement of the said service, the whole amount of advances which may be made under the said act of Congress shall have been repaid or refunded to the United States by the said Aspinwall, either in money or in the said annual compensation, as the same shall fall due under said contract, or in the price of the said vessel, if the same shall be taken into the service of the United States, on valuation, then this lien is to be released.

In testimony whereof, the parties have hereunto set their hands and affixed their seals, the day and year first herein mentioned.

WM. H. ASPINWALL. [L. S.]
PROSPER M. WETMORE. [L. S.]
J. Y. MASON, [L. S.]
*Secretary of the Navy.*

Witness:
GEORGE LAW.

Witness to the signatures of Wm. H. Aspinwall and Prosper M. Wetmore:
GERARD S. BYERS.

Witness to the signature of Honorable J. Y. Mason:
CHARLES DE SELDING.

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DISTRICT OF COLUMBIA,
*City and county of Washington,* } *ss:*

On the thirteenth day of September, in the year one thousand eight hundred and forty-eight, before me, the subscriber, a commissioner in and for the said District, appointed by the governor of the State of New York to take the acknowledgment and proof of deeds and other writings, under seal, to be used or recorded in the said State of New York, and to administer oaths and affirmations, appeared the Honorable John Y. Mason, Secretary of the Navy, and acknowledged that he had executed the foregoing instrument; and I certify that the person who made the said acknowledgment is known to me to be the individual described in, and who executed, the said instrument.

[L. S.] Given under my hand and seal of office.

CHARLES DE SELDING,
*Commissioner.*

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CITY AND COUNTY OF NEW YORK, *ss:*

On the twenty-second day of September, one thousand eight hundred and forty-eight, before me came Gerard S. Byers, known to me to be the same person who is the subscribing witness to the foregoing instrument, and being by me duly sworn, did depose and say, that he resides in the city of Brooklyn; that he knows William H. Aspinwall and Prosper M. Wetmore; that they are the same persons described in, and who executed, the said instrument; that they, the said William H. Aspinwall and Prosper M. Wetmore, severally executed and acknowledged the execution of the same in his presence, and that thereupon he subscribed his name as a witness thereto.

JOSEPH STRONG,
*Commissioner of Deeds.*

—

I, James Conner, clerk of the city and county of New York, do certify that a true copy of the aforegoing instrument, compared and duly certified by me, has this day been filed in the office of register of the city and county of New York, pursuant to part 2, chapter 7, title 2, section 10, of the Revised Statutes of the State of New York, second edition.

In witness whereof, I have hereto subscribed my name and affixed [L. S.] my official seal, this twenty-ninth day of September, A. D. one thousand eight hundred and forty-eight.

JAMES CONNER, *Clerk.*

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NAVY DEPARTMENT,
*June* 10, 1848.

SIR: Your letter of the 20th of December last was duly received, and, as I apprized you, I found it necessary to consult with the Post Office Department, so as to give to the mails carried in the line of steamers between Panama and Oregon, the readiest and most convenient access to the settlements in the interior of that Territory, by connexion with the mail routes inland. With this view I referred your letter to the Postmaster General for his consideration, and requested such suggestions as might appear to him material to the investigation. For your information I enclose a copy of his communication on the subject, addressed to me, under date of the 18th January last. On the 31st of May ultimo, he addressed to me another communication, enclosing an extract from the report of General Gilliam, the agent of the Post Office Department in Oregon; and of both I enclose copies.

You will observe that the Postmaster General advises that the mails by the line of steamers shall be landed and received at the mouth of the Kalumet river, as being, under present circumstances, the most convenient point on the coast to supply the great body of the settlers with mail facilities.

One great object of the law which authorized the Navy Department to contract for the transportation of the mail in steamers from Panama to some point in Oregon was, to secure the construction and availability for government purposes of effective steamships of war. With this view,

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the control of the vessels is reserved to the Navy Department. But in regard to the present duty to be performed in the receipt, transportation, and delivery of the mails, and as to the points at which they are to be landed for distribution in the interior, I deem it to be my duty to defer to the better informed views of the Post Office Department, whose agent is to control them. In the present condition of the settlements in Oregon, and in the existing state of things in California, and especially in view of the uncertainty as to the points at which the population will in the future establish itself, I do not feel at liberty to exercise the power reserved to me in the contract of making a definite alteration of the terminus, to continue during the term of the contract. With the understanding that the modifications now acceded to are to be subject to the absolute right of the Navy Department, on six months' notice to you, to require the service to be so performed as to deliver the mails in steamers at Astoria, or the Straits of Fuca, or any other point in Oregon, as shall be found by experience to be necessary for its efficient performance and the greatest convenience in furnishing mail facilities to the inhabitants of the country, I agree that, instead of going to Astoria, the mails may be delivered and taken on board at or near the mouth of the Kalumet river, as shall be found most convenient to connect with the inland post routes established, or to be established, by the Post Office Department; and, in consideration of your agreeing to touch, free of charge, at the three points now occupied by the squadron, or such ports on the west coast to the south, not exceeding three in number, as may be required by this department, after the restoration of peace with Mexico, I agree that the steamers shall not be required to proceed farther north than San Francisco; but the mail service must be regularly performed in connexion with them, in suitable sailing vessels, to the mouth of the Kalumet river, with the reserved right of the department to require that the steamers shall go to Astoria, the Straits of Fuca, or other point selected on the coast of Oregon, in six months' notice.

In ports of the United States, as well as those held by our forces by military occupation, the vessels employed in execution of your contract will be regarded as transports in the service of the government, and will be subjected to no tonnage duty or port charges; and your coals and other supplies for their use may be landed and deposited free of duty; but private freight will be subjected to duty, according to the laws of the United States.

I regret the delay which has occurred in answering your communication: but, anxious as I am that the enterprise in which you have engaged shall realize all the advantages contemplated by the law, and especially that it shall successfully establish and maintain a speedy, certain, and safe communication with our interesting settlements on the distant Pacific, and give to the inhabitants of that region the full facilities intended for them, in the most efficient manner, I have not been prepared to respond to your letter of the 20th of December last at an earlier day. My first duty is to secure these public objects. I shall not be unwilling, in promoting them, to make the service less onerous to you.

I am, very respectfully, your obedient servant,

J. Y. MASON.

Wm. H. Aspinwall, Esq., *New York.*

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NAVY DEPARTMENT, *January* 2, 1850.

SIR: Notice is hereby given to you, that, after the expiration of six months from the 10th of January, 1850, the mail service to be performed by the Panama and Oregon line of steamers is required to be performed as follows; viz:

From Panama to Nasqually, on Puget's sound, in the Territory of Oregon, once a month each way, to stop and deliver and take mails at San Diego, San Francisco, Monterey, and Astoria.

The departure of the steamers from Panama must be subject to, and absolutely dependent on, the receipt of, and connexion with, the principal mail or mails despatched from the United States, under the direction of the Post Office Department, for transportation across the isthmus of Panama to California and Oregon.

The modifications of the contract acceded to by the Navy Department, on the 10th of June, 1848, will cease after the 10th of July, 1850, and the mail service, for the entire distance between Panama and Nasqually, must be performed in sea-steamers, as stipulated in the contract with Arnold Harris, bearing date the sixteenth day of November, A. D. 1847. Be pleased to acknowledge the receipt of this notice.

I am, very respectfully, yours, &c.,

WM. BALLARD PRESTON.

WM. H. ASPINWALL,
*Assignee of Arnold Harris, New York.*

I concur in and approve of the foregoing order of the Secretary of the Navy.

J. COLLAMER,
*Postmaster General.*

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NAVY DEPARTMENT, *January* 4, 1850.

SIR: With the concurrence and approval of the Postmaster General, you are informed that that part of the order dated January 2, 1850, in relation to the mail service in steamers on the Pacific from Panama, which is in these words, to wit: "The departure of the steamers from Panama must be subject to, and absolutely dependent on, the receipt of, and connexion with, the principal mail or mails despatched from the United States, under the direction of the Post Office Department, for transportation across the isthmus of Panama to California and Oregon," must be understood and regarded as of immediate operation, and to be regarded and conformed to from this date.

I am, respectfully, your obedient servant,

WM. BALLARD PRESTON.

WM. H. ASPINWALL, Esq.,
*Assignee of Arnold Harris, New York.*

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THE UNITED STATES

*To W. H. Aspinwall, assignee of Arnold Harris, contractor for Pacific mail service,* DR.

| | | | |
|---|---|---|---|
| 1850. | | | |
| Feb. 18 | For services under the contract of Arnold Harris with the Navy Department, dated November 16, 1847, in transporting the United States mails between Panama and Oregon from 1st October, 1848, to 31st December, 1849, viz: | | |
| | From 1st October to 31st December, 1848, (three months,) at $199,000 per annum | | $49,750 00 |
| | From 1st January to 31st December, 1849, (24 trips,) at $199,000 per annum, 22 trips only having been performed | $182,416 67 | |
| | Deduct for distance not performed between San Francisco and Kalumet river, say 350 miles, the whole distance being 4,200 miles | 15,201 39 | |
| | | | 167,215 28 |
| | | | 216,965 28 |
| | CR. | | |
| | By advances under the act of Congress approved March 3, 1848 | | 199,000 00 |
| | | | 17,965 28 |

The department will, hereafter, upon proper and satisfactory proof of the performance of service between San Francisco and the Kalumet river, in accordance with the modifications set forth in a letter from the Hon. John Y. Mason, then Secretary of the Navy, bearing date the 10th of June, 1848, to William H. Aspinwall, esq., of New York, make such allowance as may appear equitable and just, not exceeding the amount of fifteen thousand two hundred and one dollars and thirty-nine cents, deducted in this account for the non-performance of said service between San Francisco and the Kalumet river.

This account is approved for the sum of seventeen thousand nine hundred and sixty-five dollars and twenty-eight cents.

WM. BALLARD PRESTON.

NAVY DEPARTMENT, *February* 18, 1850.

A. O. DAYTON, Esq.,
*Fourth Auditor, Treasury Department.*

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THE UNITED STATES

*To Wm. H. Aspinwall, assignee of Arnold Harris, contractor for Pacific mail service,* DR.

| | | |
|---|---|---|
| 1850. Ap'l 22 | For services under the contract of Arnold Harris with the Navy Department, dated November 16, 1847, in transporting the United States mails between Panama and Oregon from 1st of January to 31st March, 1850 (one quarter,) at $199,000 per annum..... | $49,750 00 |
| | Deduct for distance not performed between San Francisco and Kalumet river, say 350 miles, the whole distance being 4,200 miles..... | 4,145 83 |
| | | 45,604 17 |

The department will, hereafter, upon proper and satisfactory proof of the performance of service between San Francisco and the Kalumet river, in accordance with the modification set forth in a letter from the Hon. John Y. Mason, then Secretary of the Navy, bearing date the 10th of June, 1848, to Wm. H. Aspinwall, esq., of New York, make such allowance as may appear equitable and just, not exceeding the amount of four thousand one hundred and forty-five dollars and eighty-three cents, deducted in this account for the non-performance of said service between San Francisco and the Kalumet river.

This account is approved for the sum of forty-five thousand six hundred and four dollars and seventeen cents.

WM. BALLARD PRESTON.

NAVY DEPARTMENT, *April* 22, 1850.

A. O. DAYTON, Esq.,
*Fourth Auditor, Treasury Department.*

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This agreement, made at the city of Washington, in the District of Columbia, this twentieth day of April, anno Domini eighteen hundred and forty-seven, between the United States of America, by the Secretary of the Navy thereof, and Albert G. Sloo, of the city of Cincinnati, in the State of Ohio, witnesseth: That, whereas, by the 4th section of an act of Congress, approved March 3, 1847, entitled "An act providing for the building and equipment of four naval steamships," it is made the duty of the said Secretary of the Navy, upon certain terms and conditions in said act enumerated, to contract, on the part of the government of the United States, with the said A. G. Sloo, for the transportation of the United States mail from New York to New Orleans twice a month, and back, touching at Charleston, (if practicable,) Savannah, and Havana, and from Havana to Chagres and back, twice a month: Now, therefore, the said A. G. Sloo does hereby agree with the United States aforesaid, and firmly binds himself, to establish a line of steamships, to consist of at least five vessels, for the transportation of the United States mail from New York to New Orleans twice a month, and back, touching at Charleston, (if practicable,) Savannah, and Havana,

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and from Havana to Chagres and back, twice a month, according to the terms and meaning of said act of Congress; the said steamships to be of not less than fifteen hundred tons burden, and propelled by engines of not less than one thousand horse-power each; to be constructed under the superintendence and direction of a naval constructor, in the employ of the Navy Department: and to be so constructed as to render them convertible, at the least possible expense, into war steamers of the first class: *Provided, however*, That the Secretary of the Navy may, at his discretion, permit one of said steamships to be constructed of not less than six hundred tons burden, and engines in proportion.

And it is agreed by and between the parties aforesaid, that two of the said steamships shall be completed and ready for service on or before the first day of October, A. D. 1848, shall be of the burden (1,500 tons) above described, and shall be propelled by engines of direct action similar to the engine of the late United States steamer Missouri; and each of said ships shall be constructed of approved materials and fastenings, upon the dimensions of the late steamship Missouri, as they are known and of record in the Navy Department of the United States—reserving to said contractor the right to add a saloon deck in said steamers, to add to their length not exceeding thirty feet, and breadth of beam not exceeding five feet, as may be necessary to give them the draught of water required by law for the service intended; and reserving to the contractor, also, the right to add two feet to the length of cylinder above provided for, so as to make the same 70 inches in diameter and 12 feet stroke. But, in making any or all of the alterations here permitted from the plan of the Missouri aforesaid, the said contractor is not to disregard the general proportions of the steamships so to be constructed, but is to have reference to them, and to make the corresponding changes in order to preserve them, which may be required for the purpose, by his said alterations. And said ships shall be sheathed with copper of approved quality; shall have ample and convenient capacity for the accommodation of men and stores of every description; shall be well and thoroughly fitted with not less than three masts, and the necessary spars, ropes, rigging, and canvass; shall be furnished and fitted with good and sufficient ground tackle, chain and hempen cables, anchors, and hawsers, with iron side wheels, with good and sufficient boilers and coal bins for a supply of twenty days, and with all the fixtures and findings properly belonging to steamships of the dimensions and character above recited. The said boilers and machinery are to be of the best quality, and to be so placed below the water-line as to be, as far as practicable, beyond the reach of cannon-shot. And the said steamers, in strength, capacity, rigging, spars, engines, boilers, and in all other respects whatsoever, are to be similar to the late United States ship Missouri, as far as the alterations above permitted, and a reasonable regard to the nature of the service contemplated, will allow.

And it is further agreed by and between the parties aforesaid, that, should the Secretary of the Navy determine to employ a steamer of not less than six hundred tons burden for the service between Havana and Chagres, in lieu of one of said five steamers of fifteen hundred tons, as provided in the fourth section of the act of Congress hereinbefore referred to, then the said A. G. Sloo will construct said steamship of the same material, build, and finish, with size, engine, and dimensions in proportion (having regard to tonnage) to the above described ships, and fully capable in all respects

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of performing the service and answering all the conditions required by said law.

And it is further agreed by and between the parties aforesaid, that the said contractor, A. G. Sloo, shall complete and have in readiness for service the two remaining steamships provided in the act aforesaid on or before the first day of October, A. D. 1849—to be constructed and fitted, in every respect, of the burden, capacity, power, and description of the two steamships first hereinbefore described, with such improvements in model, engines, boilers, and finish, as may be approved by the parties to this contract. And said line of steamships shall be kept up, by alterations, repairs, or additions, (of approved character,) fully equal to the exigencies of the service, and the faithful accomplishment of the purposes recited in said act; shall perform the service required by said act according to its true intent and meaning; and shall be in full and entire operation on or before the first day of October, A. D. 1849.

And it is further agreed by and between said parties, that each and all of said steamships shall be commanded by an officer of the navy of the United States, not below the grade of lieutenant, to be selected by the said contractor, A. G. Sloo, with the approval and consent of the Secretary of the Navy, and to be accommodated on board thereof, in a manner becoming his rank and station, without charge to the government of the United States. And said A. G. Sloo further agrees to receive on board each of said steamships, and accommodate in a manner suitable to their rank, without charge to the government of the United States, four passed midshipmen of the United States navy, to serve as watch-officers; and also to receive on board each ship, and suitably accommodate, without charge to the United States government, an agent, to be appointed by the Postmaster General, who shall have charge of the mails to be transported therein—safe and convenient apartments on board said ships being provided for said mails and agent by the said A. G. Sloo, contractor.

And the said United States of America, by the said Secretary of the Navy, in consideration of the premises, do hereby promise and agree to pay to the said A. G. Sloo, contractor, as a compensation for the service hereinbefore stipulated, the just and full sum of two hundred and ninety thousand dollars per annum, payable in quarterly payments, upon the full performance by the said Sloo of the service aforesaid, according to the meaning of said act of Congress, and of this contract. And, inasmuch as the said steamships will be completed at different periods, respectively, within the time above limited, it is hereby understood and agreed by the parties aforesaid that each of the said ships shall commence the mail service required as soon as she shall be in all respects ready therefor, according to the terms of this contract, and that a proportionate part of said compensation stipulated for the whole service aforesaid shall be paid to said A. G. Sloo for the partial service which may thus be rendered by the steamer or steamers which may, as aforesaid, be first completed; but no compensation shall in any case be paid for any period prior to the time when such steamship or steamships shall commence the actual performance of the service required by said act of Congress.

And it is further agreed by and between the parties aforesaid, that on tender of proper compensation by the said government of the United States, not exceeding a due proportion of the pay herein stipulated, the said A. G. Sloo, contractor, shall convey any mail or mails of the United States which



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he may be required to convey, in any steamship which he, the said Sloo, may own, run, or control, on the routes aforesaid, beyond the number of trips herein specified.

And it is further agreed by and betwen said parties, that this contract shall continue in force for the term of ten years, according to the true intent and meaning thereof—the said ten years to commence from the actual commencement of the service above specified. And the said Secretary of the United States Navy for the time being shall at all times exercise control over said steamships, and shall at any time have the right to take them for the exclusive use and service of the United States, and to direct such changes in their machinery and internal arrangements as the said Secretary may require; the cost of such changes to be ascertained by the bills actually paid therefor, and the proper compensation of the value of the ships, when so taken, as aforesaid, to be ascertained by appraisers to be mutually chosen by the parties aforesaid.

In testimony of all which agreements and stipulations, the parties above named have hereunto signed their names and affixed their seals, this twentieth day of April, A. D. one thousand eight hundred and forty-seven.

A. G. SLOO. [L. s.]
J. Y. MASON, [L. s.]
*Secretary of the Navy.*

Signed, sealed, and delivered in the presence of—

As to the signature of A. G. Sloo: GEO. L. STORER.
As to the signature of J. Y. Mason: JOHN APPLETON.

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Know all men by these presents, that I, Albert G. Sloo, of the city of Cincinnati, in the State of Ohio, in consideration of one dollar to me in hand paid by George Law, Marshall O. Roberts, and Bowes R. McIlvaine, of the city of New York, the receipt whereof is hereby acknowledged, and for divers other causes and considerations me thereunto moving, have assigned, transferred, and set over, and by these presents do assign, transfer, and set over unto them, the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, a certain contract, bearing date the twentieth day of April, in the year one thousand eight hundred and forty-seven, and made and executed by and between the United States of America, by the Secretary of the Navy thereof, of the one part, and me, the said Albert G. Sloo, of the other part, for the establishment of a line of steamships for the transportation of United States mail from New York to New Orleans twice a month and back, and which contract is hereunto annexed: to have and to hold the said contract, and all my right, title, and interest therein, and in and to the moneys to be had and received by virtue thereof, and all the privileges, emoluments, benefits, and advantages thereunto belonging—subject, however, to the duties, services, and obligations therein specified to be performed by me to the government of the United States—unto them the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, and the survivors and survivor of them, their successors and assigns, forever: Upon the trusts, however, and for the uses and purposes, expressed and declared in a certain deed, or indenture, bearing date the seventeenth day of August, one thousand eight hundred and forty-seven, made and executed by and between me, the said Albert G. Sloo, of the first part, and George Law, Marshall O. Roberts,

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and others, of the second part, and the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, of the third part, and which said indenture, so far forth as it relates to and declares the said trusts, is to be taken and deemed as part and parcel of these presents.

And I, the said Albert G. Sloo, do hereby covenant and agree to and with the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, that the said contract is now free and clear of and from all other and former grants, assignments, transfers, mortgages, and circumstances whatsoever; and that I have good right and lawful authority to transfer and assign the same in manner aforesaid—subject to the approval of the Secretary of the Navy.

In witness whereof, I have hereunto set my hand and seal, this third day of September, in the year of our Lord one thousand eight hundred and forty-seven.

A. G. SLOO. [L. S.]

Sealed and delivered in presence of—
ROBERT GETTY,
A. IRWIN, Jr.

We, the undersigned, sureties for the faithful fulfilment of the stipulations of the contract mentioned in the within assignment, executed by and between the United States of America, by the Secretary of the Navy thereof, of the one part, and Albert G. Sloo, of the other part, bearing date the twentieth day of April, one thousand eight hundred and forty-seven, do hereby consent and agree to the foregoing assignment thereof, by the said Albert G. Sloo, to the within-named George Law, Marshall O. Roberts, and Bowes R. McIlvaine; and that the said assignment shall in no manner affect our responsibility or liability as such sureties, in case of any neglect, default, or breach in the performance of the stipulations of the said contract, or any of them; but that our liabilities as such sureties shall continue in the same manner and with the like effect as if the said assignment had not been made.

In witness whereof, we have hereunto set our hands and seals, this third day of September, in the year of our Lord one thousand eight hundred and forty-seven.

ROBERT C. WETMORE. [L. S.]
MARSHALL O. ROBERTS. [L. S.]
GEORGE LAW. [L. S.]
EDWIN CROSWELL. [L. S.]

Sealed and delivered in the presence of—
JAMES ANDERSON,
As to the signatures of Robert C. Wetmore, Marshall O. Roberts, and George Law.
J. J. JOHNSON,
As to the signature of Edwin Croswell.

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This indenture, made and entered into this ninth day of September, in the year one thousand eight hundred and forty-eight, between George Law, Marshall O. Roberts, and Bowes R. McIlvaine, of the city of New York, of the first part, Prosper M. Wetmore, of the same city, of the second part,

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and the United States of America, by John Y. Mason, Secretary of the Navy, of the third part: Whereas, by virtue of an act of Congress approved March 3, 1847, the Secretary of the Navy, on behalf of the United States, did, on the 20th day of April, 1847, enter into a contract with A. G. Sloo for the transportation of the mail from New York to New Orleans twice a month and back, touching at Charleston, (if practicable,) Savannah, and Havana, and from Havana to Chagres and back twice a month, in at least five steamships, convertible into steamships of war, which said contract the said A. G. Sloo assigned to the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, by his written assignment; and whereas, by an act of Congress, entitled "An act making appropriations for the naval service for the year ending the 30th June, 1849," approved on the 3d day of August, 1848, the Secretary of the Navy is directed to advance to the contractor, for the transportation of the mail between New York and New Orleans twice a month and back, touching at Charleston, (if practicable,) Savannah, and Havana, and from Havana to Chagres and back twice a month, or his assignees, for the purpose of enabling them to finish the steamships contracted for under the said contract, the sum of twenty-five thousand dollars per month on each of said ships, after such ships shall have been launched—but the money so to be advanced shall not exceed one year's compensation stipulated for in the said contract, to be secured by a lien on said ships, in such a manner as the Secretary of the Navy may require, and the money so advanced shall be faithfully expended in finishing said ships to the satisfaction of the Secretary of the Navy; and whereas the said parties of the first part, assignees as aforesaid, and under the contract aforesaid, have launched two steamships, called the "Ohio" and the "Georgia," which are yet unfinished; and whereas, to enable them to finish their said steamships, they have applied to the Secretary of the Navy for such monthly advances on the same as, by virtue of the said act, the Secretary of the Navy is authorized and directed to make, and are willing and desirous to secure the repayment or refunding of the same, from the annual compensation stipulated to be paid for the said service by the said contract, by a lien on said ships, in the form of a deed of trust, which has been required by the said Secretary of the Navy: Now this indenture witnesseth, that for and in consideration of the premises, and of the sum of one dollar to them in hand paid, before the sealing and delivery of these presents, by the said Prosper M. Wetmore, party of the second part, they, the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, parties of the first part, do bargain and sell and convey, by these presents, the said steamships, the "Ohio" and the "Georgia," with all their tackle, apparel, and furniture, to have and to hold, to him the said Wetmore, or to his assigns: Upon trust, nevertheless, that the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine are to retain possession of the said steamships herein sold and conveyed, and to employ them, if they shall be accepted, in execution of the contract above referred to; and if, after the expiration of one year from the actual commencement of the performance of the said service under said contract, being thereto required in writing by the Secretary of the Navy, the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, or some one of them, shall have failed to repay in money, or to refund out of the compensation for said service for one year, or out of the value of the said vessels, if, before the expiration of one year, the same shall be taken into the service of the United States, such outstanding

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balances, due and unpaid, or unrefunded, of such advances as the Secretary of the Navy may have made prior to the first day of October, 1849, to the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, assignees, as aforesaid, under the act of Congress of the 3d of August, 1848, with such interest thereon as may have become legally due to the United States, then the said Wetmore, his executor, administrator, or assignee, being required so to do by the Secretary of the Navy of the United States, shall, after advertising for six months, in two newspapers published in the city of New York, the time and place of sale, proceed to sell at public auction, for cash, the said steamships, or such of them as may be necessary for the purposes of this deed, and out of the proceeds of said sale pay: first, the expenses of executing this trust; secondly, such unsatisfied balance of advances as may be due the United States, as aforesaid; and the balance, if any, to be paid to the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine: And upon the further trust, that if, at or before the expiration of one year from the commencement of the said service, the whole amount of advances which may be made under the said act of Congress shall have been repaid or refunded to the United States by the said George Law, Marshall O. Roberts, and Bowes R. McIlvaine, either in money or in the annual compensation, as the same shall fall due under the said contract, or in the price of the said vessels, if the same shall be taken into the service of the United States on valuation, then this lien is to be released.

In witness whereof, the parties have hereunto set their hands and affixed their seals, the day and year first herein mentioned.

GEORGE LAW. [L. S.]
MARSHALL O. ROBERTS. [L. S.]
B. R. McILVAINE. [L. S.]
PROSPER M. WETMORE. [L. S.]
J. Y. MASON, [L. S.]
*Secretary of the Navy.*

Witness as to the signatures of M. O. Roberts, P. M. Wetmore, and J. Y. Mason, Secretary of the Navy:
GERARD S. BYERS.

Also to the signatures of B. R. McIlvaine and George Law:
GERARD S. BYERS.

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CITY AND COUNTY OF NEW YORK, *ss:*

On the twenty-second day of September, one thousand eight hundred and forty-eight, before me came Gerard S. Byers, known to me to be the same person who is the subscribing witness to the within instrument, and, being by me duly sworn, did depose and say: That he resides in the city of Brooklyn; that he knows George Law, Marshall O. Roberts, Bowes R. McIlvaine, and Prosper M. Wetmore; that they are the same persons described in and who executed the same instrument; that they, the said George Law, Marshall O. Roberts, Bowes R. McIlvaine, and Prosper M. Wetmore, severally executed and acknowledged the execution of the same in his presence; and that thereupon he subscribes his name as a witness thereto.

JOSEPH STRONG, [L. S.]
*Commissioner of Deeds.*

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I, James Conner, clerk of the city and county of New York, do certify that a true copy of the aforegoing instrument, compared and duly certified by me, has this day been filed in the office of register of the city and county of New York, pursuant to part II, chapter VII, title II, section 10, of the Revised Statutes of the State of New York, second edition.

In witness whereof, I hereto subscribe my name and affix my official [L. S.] seal, this 10th day of September, A. D. 1848.

JAMES CONNER, *Clerk.*

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IRVING HOUSE, *October* 15, 1849.

SIR: In reply to your inquiry, I have to report that, of the vessels stipulated to be built in my contract with the government, the "Ohio" is already in service, and only needs coppering to be entirely completed. That will be done on her next trip—it being thought by experienced builders that it is better for vessels to run a short time before being coppered.

The "Georgia" is nearly finished, and will be ready in December. Arrangements have been made for the prompt construction of the other two vessels; but it has been deemed prudent to test the models of the "Ohio" and "Georgia" before the precise structure of the other two is decided on. The "Ohio" has made one trip, and is pronounced by some of the most accomplished officers of the navy, who witnessed her performance, to be *the finest and fastest steamship in the world.* She has accomplished thirteen and a half nautical, nearly equal to sixteen geographical, miles an hour on the sea—the greatest on record—and that, too, with twelve pounds of steam per square inch.

Soon after making my contract with the government, I contracted with certain gentlemen of this city for the construction of all the vessels within the time required by the Navy Department. I have to regret, however, that they have not fulfilled that engagement. They have furnished the steamship "Falcon," which was temporarily accepted by the department as a substitute for the small vessel to run between Havana and Chagres. But they have not yet built the other two vessels, which, by the terms of my contract with government and my contract with them, were also to have been completed by the first instant. The three vessels, however, now and about to be in service, the "Ohio," "Falcon," and "Georgia," make an aggregate of 6,400 tons, which is within 200 tons of the amount of tonnage specified with government in my contract for the whole five. After that contract was made, the discovery of gold in California caused a great augmentation of travel and transportation, rendering it expedient to build larger vessels than would have been otherwise adequate. About the same time, a larger class of vessels appeared on the Cunard line; and, as speed is an essential condition of the efficiency of such vessels either in the mail or naval service, and size is indispensable to speed, it was obvious that *so far as the interest of government is concerned*, it was far better to have vessels of the first order, since the compensation paid for the service by the government is no greater than for vessels of the class admissible by the contract.

It was not, however, contemplated that the construction of these vessels would be delayed beyond the time contracted for, especially after the liberal

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advance of a year's mail pay by the government. Yet a delay has occurred, much to my regret and disappointment, and disadvantage: and I have only to say that I stand ready to proceed promptly in the construction of the two remaining vessels, in case any further delay occurs on the part of those who are engaged to me for their construction. Inasmuch, however, as the government pays only according to the service actually going on, and pays nothing extra for the superior size and performance of the vessels, I trust it will be seen that *its interest*, under all the circumstances, will experience no detriment; and when it is considered that under my contract more has been done than under any other, and more than has been accomplished in the construction of the four steamers by the Navy Department, with all its money, material, and machinery, I trust the government will recognise the good faith with which I have acted, and extend the same indulgence to this contract which has been made to others.

I remain, very respectfully, yours, &c.,

A. G. SLOO.

To Commodore PERRY.

Respectfully referred to the Honorable Secretary of the Navy.

M. C. PERRY.

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*United States Mail Contract—New York and Liverpool.*

This agreement, made at the city of Washington, this first day of November, anno Domini eighteen hundred and forty-seven, between the United States of America, by the Secretary of the Navy thereof, and Edward K. Collins and his associates, James Brown and Stewart Brown, of the city and State of New York, witnesseth: That whereas the said Collins and his associates submitted to the Postmaster General, on the sixth of March, anno Domini eighteen hundred and forty-six, proposals to carry the United States mail between New York and Liverpool twice each month during eight months of the year, and once a month during the other four months, for the sum of three hundred and eighty-five thousand dollars per annum, payable quarter-yearly, and for this purpose proposed to build five steamships of not less than two thousand tons measurement, and of one thousand horse-power each, to be built for great speed, and sufficiently strong for war purposes—four of them to be ready for service in eighteen months from the day of the date of these presents, the fifth to be built as early as possibly practicable, and, when not employed in the mail service, to be subject to the orders of the government for carrying despatches, for which service a fair compensation to be paid; the United States, moreover, to have the privilege of purchasing said steamships, whenever required for public purposes, at a fair valuation, to be ascertained by appraisers mutually selected by the United States and by the owners: and whereas, by the second and third sections of the act of Congress approved March three, eighteen hundred and forty-seven, entitled "An act providing for the building and equipment of four naval steamships," it is made the duty of the Secretary of the Navy to accept on the part of the government of the United States the said proposals of E. K. Collins and his associates, and contract with the said E. K. Collins and his associates for the faithful fulfilment of

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the stipulations therein contained, with the additional provisions that said steamships so proposed to be constructed shall be constructed under the inspection of a naval constructor, in the employ of the Navy Department, shall be so constructed as to render them convertible at the least possible cost into war steamers of the first class, shall receive on board each of them four passed midshipmen of the United States navy, who shall serve as watch-officers, and one agent, to be appointed by the Postmaster General, who shall have charge of the mails to be transported in said steamships—said midshipmen and agent to be suitably accommodated and subsisted on board, without charge to the government:

Now, therefore, the said E. K. Collins and his associates, James Brown and Stewart Brown, as principals, and William L. Youle and Jacob H. Burnett, as sureties for the faithful performance of all the stipulations and conditions hereinafter expressed to be performed by said Collins and his associates, do hereby severally and jointly agree with the United States of America, and firmly bind themselves faithfully to comply, on their part, with all the provisions of said proposals and act of Congress, to build as aforesaid five steamships, of not less than two thousand tons measurement each, and each with steam machinery of one thousand horse-power, or thirty-three cubic feet of cylinder to every one hundred tons register, each ship to be of sufficient strength for war purposes, and to be so constructed that she may be converted at the least possible cost into a war steamer of the first class. For the materials, dimensions, and more full specifications of the hull of said ships and their steam machinery, respectively, reference is made to the annexed schedules, marked A and B, which belong to and form part of this agreement. And said Collins and his associates agree to construct said ships generally according to the specifications in said schedules, reserving the liberty to vary from them as in their judgment may seem necessary and proper, and not inconsistent with the proposals and act of Congress already referred to; but the Navy Department shall be advised of any variations or alterations from said specifications, as they may be made. And it is further agreed by said Collins and his associates, that said ships shall be constructed under the inspection of a naval constructor, to be employed and paid by the Navy Department. And they will receive on board each of them, and suitably accommodate and subsist, four passed midshipmen of the United States Navy, detailed by the department, to serve as watch-officers, and one agent, to be appointed by the Postmaster General, and to have charge of the mails to be transported on board—such accommodation and subsistence to be without charge to the United States—the said midshipmen and agent to be paid by the government. And the said Collins and his associates further agree and bind themselves to carry on board of such ships, in proper apartments to be by them provided, from New York to Liverpool, all such mails as may be made up and delivered for the purpose by the Postmaster General or his agents, and to transport from Liverpool to New York, and deliver to the order of the postmaster in New York, or of such other agent as may be designated by the Postmaster General, all such mailable matter as may be received on board of such ships, pursuant to law and the instructions of the Postmaster General, at Liverpool aforesaid, as often as said ships shall respectively leave New York and Liverpool, as provided in this contract. And said Collins and his associates further agree, that they will carry said mails as aforesaid in said steamships twice each month (that is to say, twice from New York and

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twice from Liverpool) during eight months of the year, and once a month (that is to say, once from New York and once from Liverpool) during four months of the year; that one of said ships shall be ready to perform the said mail service in eighteen (18) months from the date of this agreement, and three others as soon thereafter as each may be required to take its place in the line in pursuance of the foregoing stipulations; and that the fifth steamship shall be commenced and built as early as may be practicable thereafter, and, when not employed in the mail service, shall be subject to the orders of the Navy Department for carrying despatches, for which employment a fair compensation is to be paid, as may be agreed upon by the parties hereto, when such despatch service may be required. And said Collins and his associates further agree and bind themselves to sell, convey, and deliver the said steamships to the Navy Department aforesaid, whenever they may be required for public purposes; that said department shall at all times exercise control over said steamships, and at any time have the right to take them for the exclusive use and service of the United States; and that they, said Collins and his associates, will cause to be made such changes in the machinery and internal arrangements of said ships as the Secretary of the Navy may require, the cost of such changes to be reimbursed by the United States when ascertained by the bills actually paid therefor; and the proper value of the ships, when so taken or sold as aforesaid, to be ascertained by appraisers, two of them to be selected by the Secretary of the Navy, and two by said Collins and his associates, which four, in the event of disagreement, shall select a fifth, and the valuation to be then fixed by a majority of the appraisers, and to be paid by government for the vessels so taken. And the said United States of America, by the said Secretary of the Navy, in consideration of the premises, do hereby promise and agree to pay to the said E. K. Collins and his associates, as a compensation for the service hereinbefore stipulated, the just and full sum of three hundred and eighty-five thousand dollars per annum, in four quarter-yearly payments, the first payment to be made in three months from the date at which the said Collins and his associates shall have actually commenced the performance of the mail service herein stipulated to be rendered according to the terms of said act of Congress and of the proposals aforesaid. And for this purpose said service shall be considered as commenced whenever the first of said steamships shall be in all respects ready to enter upon its performance, provided that fifteen days' notice in advance of such readiness shall be given by said Collins and his associates to the Secretary of the Navy; and the compensation aforesaid shall in nowise commence until after the expiration of said fifteen days. And it is hereby also stipulated and agreed by the said contractor and his sureties, that in all cases there is to be a forfeiture of the *pro rata* pay for the trip, either from New York to Liverpool or from Liverpool to New York, when the trip is not made and the mail delivered. And it is understood and agreed further between the parties, that there is to be no liability under this contract on the part of the said contractors and their sureties for the contents of said mails when the same are not delivered, in case the failure to deliver the same is the result of the dangers of the sea, or of such as are peculiar to steam navigation, and not caused by neglect, or by want of proper skill, or by misconduct, on the part of said contractors, their agents or servants. And it is further agreed by and between the parties aforesaid, that this contract shall be and continue in full force and virtue for the term of ten years

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from the date of the actual commencement of the service herein stipulated to be rendered.

In testimony of all which agreements and stipulations, the parties above named have hereunto signed their names and affixed their seals, the day and year above written.

EDWARD K. COLLINS. [L. S.]
JAMES BROWN. [L. S.]
STEWART BROWN. [L. S.]
J. H. BURNETT. [L. S.]
W. L. YOULE. [L. S.]
J. Y. MASON, [L. S.]
*Secretary of the Navy.*

Sealed and delivered in the presence of—
G. H. W. STRONG,
JOHN APPLETON.

—

UNITED STATES ATTORNEY'S OFFICE,
*New York, November* 29, 1847.

I certify, on satisfactory and trustworthy information, that the parties to the above contract are sufficient to respond in the sum of five hundred thousand dollars.

B. F. BUTLER,
*United States Attorney.*

—

A.

Intended size of said steamships, about 3,000 tons: being 300 feet between perpendiculars, 45 feet moulded beam, 33 to 35 feet depth of hold.

Keel to be of white oak, sided 18 inches, and 20 inches below the timbers.

Frame to be of white oak, locust, chestnut, and cedar, with a live oak apron, knight heads, and inner stern-post. Frame to side from 10 to 12 inches, viz: floors 12 inches, and moulded 22 inches, lower futlocks 12 inches, and all the timbers to side 10 inches, and to be placed four feet from centre to centre, except the bottom to the turn of the bilge, which is to be solid from 100 to 150 feet. Frame to be put together close joints, and to have a plate of iron let into the timbers, before putting the frame together, of a size equal to 7 inches wide and 1¼ inch thick, running from the upper end of the main deck beams to the centre of the kelson, and to be bolted through the iron plate and timbers with screw-bolts on each side of the butts of the timbers, and oftener if thought necessary. Plank ceiling, bilge, streaks, and clamps, of yellow pine, of from 5 to 7 inches thick, and the planking to be bolted edgewise, to be fastened with copper bolts coming through the timbers and secured with a ring over the end of each bolt; larboard streak of white oak, ten inches thick, and 15 inches wide, with a timber cut into it and bolted edgewise and through the keel with inch copper bolts, and two bolts of same size in each timber, and to be clenched on

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a ring on the inside. Bolts through the keel not more than three feet apart.

Clamps of the main deck and lower deck to be coaged and bolted up and down every four feet. Deck beams of yellow pine, sided from 10 to 14 inches, and moulded 9 or 10 inches at the ends and 13 inches in the middle, and to be secured to the iron plates hereinafter described with screw-bolts on each side of the beam. Wheel beam to be of oak or yellow pine of a suitable size, and to have a hanging knee under each beam, not less than 8 inches sided, and to be well bolted.

Two iron bars let into the frame on the outside, opposite the ends of the upper and lower deck beams, extending around the ship, and keyed together.

Third or spar deck, two streaks of clamps of yellow pine from 4 to 5 inches thick; ceiling of white pine 3 to 3½ inches thick; beams of yellow pine, moulded 6½ inches at the end and 8 inches in the middle, and placed 4 feet from centre to centre, and a hanging knee to each beam, well bolted.

All the waterways except of the lower deck to be of white pine, and those of the lower deck of yellow pine, and all well bolted.

Decks to be of white pine from 3½ to 4 inches thick. Main kelson to be of white oak, sided 18 inches and two in depth, each 16 inches, and bolted with 1⅜ inch copper bolts; side kelson and bed timber to be of yellow pine.

Under the main deck is to be placed an orlop deck forward and aft of the machinery. All fastening, whether of copper or iron, to be ample in quantity or size for vessels of this class. To be placed between two frames, one middle timber of cedar or cypress, sided eight inches, and moulded to suit the other timbers from the filling of the floors to the main deck, bolted the same as the other frames.

EDWARD K. COLLINS.

—

B.

Intended steam machinery:

Two cylinders of about 100 inches in diameter and ten feet stroke of piston, of direct action; cranks, water-wheel shafts, and water-wheel, of wrought iron. The collective power of the engines at the ordinary rate of working is estimated at 2,000 horse-power.

Boilers flued, four in number, and of wrought iron, to contain collectively about 17,000 square feet of heating surface.

EDWARD K. COLLINS.

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*To all to whom these presents shall come, or may in anywise concern:*

We, Edward K. Collins, James Brown, and Stewart Brown, being the parties named in a certain agreement, made at the city of Washington the first day of November, anno Domini eighteen hundred and forty-seven, between the United States of America, by the Secretary of the Navy thereof, and Edward K. Collins and his associates, James Brown and Stewart Brown, of the city and State of New York, relative to the transportation of the United States mail between the ports of New York and Liverpool, pursuant to the act of Congress approved March 3, 1847, entitled "An act providing for the building and equipment of four naval steamships," severally send greeting;

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Whereas we have formed between ourselves, and others, our associates, and entered into and signed, certain articles of association under the said agreement, and, in order to raise the requisite amount of funds to carry out and complete the said agreement, according to its true intent and meaning, the said associates to the said articles of association have created certain shares of capital stock, each share being of a certain amount, which said articles also prescribe the manner in which the affairs of the said association shall be managed in reference to the fulfilment of the said agreement, and the navigation and employment of the said steamships when built and equipped and put into the service for which they are destined, and, among other things, have therein provided for the appointment of five trustees for these purposes, and constituted Edward K. Collins, Elisha Riggs, James Brown, William S. Wetmore, and Stewart Brown such trustees, as by the said articles of association, reference thereto being had, will more fully appear:

Now, therefore, know ye, that we, the said Edward K. Collins, James Brown, and Stewart Brown, parties as aforesaid to the said agreement, and parties to these presents of the first part, for and in consideration of the premises, and in order to execute and fulfil as well the said agreement as the said articles of association, and in further consideration of the sum of ten dollars to us in hand paid by the said Edward K. Collins, Elisha Riggs, James Brown, William S. Wetmore, and Stewart Brown, trustees as aforesaid, parties to these presents of the second part, at or before the ensealing and delivery of these presents, the receipt whereof is hereby acknowledged, have severally sold, granted, conveyed, assigned, transferred, and set over, and by these presents do severally sell, grant, convey, assign, transfer, and set over, unto the said parties of the second part, as such trustees as aforesaid, and the survivors and survivor of them and their and his successors in the said trust, the aforesaid agreement bearing date the said first day of November now last past, and all and singular our and each of our right, title, and interest of, in, and to the same, and the moneys and compensation thereby made payable, and all our and each of our right to go on with and execute and fulfil the said agreement on our part, and all and singular our and each of our other rights, privileges, benefits, and advantages under and by virtue of the said agreement: to have and to hold the same, and all and singular the premises above mentioned or referred to, unto the said parties of the second part, and the survivors and survivor of them and their and his successors in the said trust, in trust, and to and for the use and benefit of themselves and their associates in the ratio of the amount of their several subscriptions to the said articles of association, and to execute, perform, and fulfil the said agreement with the said Secretary of the Navy, and to carry out and execute the said articles of association.

In witness whereof, we have to these presents set our respective hands and seals, this thirteenth day of December, in the year of our Lord one thousand eight hundred and forty-seven.

EDWD. K. COLLINS. [L. S.]
JAMES BROWN. [L. S.]
STEWART BROWN. [L. S.]

Sealed and delivered in presence of—
J. H. PHINNEY.

[The words "shall be managed," on the first page, being first interlined.]

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CITY AND COUNTY OF NEW YORK, *ss:*

I, Joseph Strong, a commissioner of deeds in and for the city and county of New York, do hereby certify that I have compared the within copy of an instrument dated 13th December, 1847, and signed by Edward K. Collins, James Brown, and Stewart Brown, and which has this day been proved before me by J. H. Phinney, a subscribing witness thereto, and that I find the same to be a true and accurate copy thereof.

JOSEPH STRONG,
*Commissioner of Deeds.*

NEW YORK, *March* 5, 1849.

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This indenture, made and entered into this sixth day of February, in the year one thousand eight hundred and forty-nine, between Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, all of the city of New York, of the first part, Prosper M. Wetmore, of the same city, of the second part, and the United States of America, by John Y. Mason, Secretary of the Navy, of the third part: Whereas, by virtue of an act of Congress approved March 3, 1847, the Secretary of the Navy, on behalf of the United States, did, on the first day of November, 1847, enter into a contract with Edward K. Collins and his associates, James Brown and Stewart Brown, for the transportation of the mail between the ports of New York and Liverpool, in England, in four steamships convertible into steamships of war, which said contract the said Edward K. Collins, James Brown, and Stewart Brown assigned to the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, by their written assignment; and whereas, by an act of Congress entitled "An act making appropriations for the naval service for the year ending the 30th June, 1849," approved on the 3d day of August, 1848, the Secretary of the Navy is directed to advance to the contractors for the transportation of the mail between New York and Liverpool, in England, or their assigns, for the purpose of enabling them to finish the steamships contracted for under their said contract, the sum of twenty-five thousand dollars per month on each of said ships, after such ships shall have been launched, but the money so to be advanced shall not exceed one year's compensation stipulated for in the said contract, to be secured by a lien on such ships, in such manner as the Secretary of the Navy shall require, and the money so advanced shall be faithfully expended in finishing said ships to the satisfaction of the Secretary of the Navy; and whereas the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, assignees as aforesaid and under the contract aforesaid, have launched two steamships, called the "Atlantic" and the "Pacific," which are yet unfinished; and whereas, to enable them to finish their said steamships, they applied to the Secretary of the Navy for such monthly advances on the same as by virtue of the said act the said Secretary of the Navy is authorized and directed to make, and are willing and desirous to secure the repayment or refunding of the same from the annual compensation stipulated to be paid for the said service by the said contract by a lien on said ships, in the form of a deed of trust, which has been required by the said Secretary of the Navy: Now, this indenture witnesseth, that for and in consideration of the premises, and of the sum of one dollar to them

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in hand paid, before the sealing and delivery of these presents, by the said Prosper M. Wetmore, party of the second part, to the said parties of the first part, they do bargain and sell and convey, by these presents, the said steamships, the "Atlantic" and the "Pacific," with all their tackle, apparel, and furniture, to have and to hold to him, the said Wetmore, or to his assigns: Upon trust, nevertheless, that the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown are to retain possession of the said steamships herein sold and conveyed, and to employ them, if they shall be accepted, in execution of the contract above referred to; and if, after the expiration of one year from the commencement of the performance of the said service under said contract, being required thereto in writing by the Secretary of the Navy, the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, or some other for them, shall have failed to repay in money, or to refund out of the compensation for said service for one year, or out of the value of the said vessels, if before the expiration of one year the same shall be taken into the service of the United States, such outstanding balances, due and unpaid or unrefunded, of such advances as the Secretary of the Navy may have made prior to the end of one year from the commencement of the performance of the said service under said contract, to the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, assignees as aforesaid, under the said act of Congress of the 3d of August, 1848, with such interest thereon as may have become legally due to the United States, then the said Wetmore, his executors, administrators, or assigns, being required so to do by the Secretary of the Navy of the United States, shall, after advertising for six months, in two newspapers published in the city of New York, the time and place of sale, proceed to sell, at public auction, for cash, the said steamships, or such of them as may be necessary for the purposes of this deed, and out of the proceeds of said sale shall pay—*first*, the expenses of executing this trust; *secondly*, such unsatisfied balances of advances as may be due to the United States as aforesaid; and the balance, if any, to the said Edward K. Collins, James Brown, William S. Wetmore, Elisha Riggs, and Stewart Brown, or their assigns: and upon the further trust, that if, at or before the expiration of one year from the commencement of the said service, the whole amount of advances which may be made under the said act of Congress shall have been repaid or refunded to the United States by the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, either in money or in the said annual compensation, as the same shall fall due under said contract, or in the price of the said vessels, if the same shall be taken into the service of the United States on valuation, then this lien is to be released.

In witness whereof, the parties have hereunto set their hands and affixed their seals, the day and year first above mentioned.

EDWARD K. COLLINS. [L. s.]
JAMES BROWN. [L. s.]
E. RIGGS. [L. s.]
W. S. WETMORE. [L. s.]
STEWART BROWN. [L. s.]
PROSPER M. WETMORE. [L. s.]
J. Y. MASON, [L. s.]
*Secretary of the Navy.*

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Witness: JAS. M. BROWN,
To the signatures of Edward K. Collins, James Brown, E. Riggs, W. S. Wetmore, Stewart Brown.

Witness: GEO. L. STORER,
To the signature of Prosper M. Wetmore.

Witness: SAM. L. HARRIS,
To the signature of J. Y. Mason.

[The words "entitled an act" being first interlined, 1st page.]

—

I, James Connor, clerk of the city and county of New York, do certify that a copy of the preceding mortgage, duly compared by me, was this day filed in the office of the register of the city and county of New York.

In witness whereof, I have hereto subscribed my name and affixed the [L. S.] seal of the court of common pleas for said city and county, the 12th day of March, 1849.

JAMES CONNER, *Clerk.*

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Referred to Second Comptroller. Is the within deed of trust valid? Has the registry been properly made and legal?

WM. B. P.,
by R. W. YOUNG,
*Chief Clerk.*

—

I have examined the within deed, and am of opinion that it is a valid instrument. On consulting with those acquainted with the registry laws of the State of New York, I am advised that the instrument has been registered conformably thereto.

ALBION K. PARRIS, *Comptroller.*

APRIL 10, 1849.

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Whereas it is provided, by the seventh section of the act of Congress of the 3d of March, 1849, entitled "An act making appropriations for the naval service for the year ending the thirtieth June, one thousand eight hundred and fifty," that the Secretary of the Navy be, and hereby is, authorized so to modify the contract entered into by him with E. K. Collins and his associates for the transportation of the mails between New York and Liverpool, under the direction of the act of Congress approved March 3, 1847, as to postpone the commencement of the mail service stipulated to be performed until the first of June, 1850, without in other respects impairing the condition or obligations of the said contract: Now, therefore, be it known, that by the mutual agreement of the parties to the contract above referred to, to wit: William Ballard Preston, as Secretary of the Navy, on the part of the United States, and in pursuance of the authority

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aforesaid, and E. K. Collins, James Brown, and Stewart Brown, as principals, and William L. Youle and Jacob H. Burnett, as sureties, the said contract is hereby so modified as to postpone the commencement of the mail service therein stipulated to be performed until the first of June, eighteen hundred and fifty, without in other respects impairing the condition or obligations of the said contract.

In testimony whereof, the parties have hereunto signed their names and affixed their seals, this nineteenh day of April, one thousand eight hundred and forty-nine.

WM. BALLARD PRESTON. [L. S.]
EDW. K. COLLINS, [L. S.]
JAMES BROWN, [L. S.]
STEWART BROWN, [L. S.]
*Contractors.*
WM. L. YOULE, [L. S.]
J. H. BURNETT, [L. S.]
*Sureties.*

Witness as to the Secretary:
R. W. YOUNG.
Witness:
JOSEPH STRONG.

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CITY AND COUNTY OF NEW YORK, *ss:*

On the twentieth day of April, one thousand eight hundred and forty-nine, before me came Edward K. Collins, James Brown, Stewart Brown, William L. Youle, and Jacob H. Burnett, known to me to be the same persons described in, and who executed, the above instrument, and severally acknowledged that they executed the same.

JOSEPH STRONG,
*Commissioner of Deeds.*

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This indenture, made and entered into the seventh day of March, in the year one thousand eight hundred and fifty, between Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, all of the city of New York, of the first part, William H. Le Roy, navy agent of the port of New York, and Hiram Fuller, naval storekeeper in New York, of the second part, and the United States of America, by William Ballard Preston, Secretary of the Navy, of the third part:

Whereas, by virtue of an act of Congress approved March 3, 1847, the Secretary of the Navy, in behalf of the United States, did, on the first day of November, one thousand eight hundred and forty-seven, enter into a contract with Edward K. Collins and his associates, James Brown and Stewart Brown, for the transportation of the mail between the port of New York and Liverpool, in England, in four steamships, convertible into steamships of war, which said contract the said Edward K. Collins, James Brown, and Stewart Brown assigned to the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, by their written assignment; and whereas, by an act of Congress entitled "An act making

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appropriations for the naval service for the year ending the 30th June, 1849," approved on the 3d day of August, 1848, the Secretary of the Navy is directed to advance to the contractors for the transportation of the mail between New York and Liverpool, in England, or their assignees, for the purpose of enabling them to finish the steamships contracted for under their said contract, the sum of twenty-five thousand dollars per month on each of said ships, after such ships shall have been launched, but the money so to be advanced shall not exceed one year's compensation stipulated for in the said contract, to be secured by a lien on such ships, in such manner as the Secretary of the Navy shall require, and the money so advanced shall be faithfully expended in finishing said ships to the satisfaction of the Secretary of the Navy; and whereas the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, assignees as aforesaid, and under the contract aforesaid, have launched that certain steamship called the "Arctic," which is yet unfinished; and whereas, to enable them to finish their said steamship, they applied to the Secretary of the Navy for such monthly advances on the same as by virtue of the said act the said Secretary of the Navy is authorized and directed to make, and are willing and desirous to secure the repayment or refunding of the same from the annual compensation stipulated to be paid for the said service by the said contract by a lien on said ships, in the form of a deed of trust, which has been required by the said Secretary of the Navy:

Now, this indenture witnesseth, that for and in consideration of the premises, and of the sum of one dollar to them in hand, before the sealing and delivery of these presents, by the said parties of the second part, they, the said parties of the first part, do bargain and sell and convey, and by these presents, the said steamship the "Arctic," with all her tackle, apparel, engines, and furniture, to the said parties of the second part, to have and to hold to them, the said parties of the second part, and to their successors in their respective offices of navy agent and naval storekeeper as aforesaid, or to their assigns: Upon trust, nevertheless, that the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown are to retain possession of the said steamship herein and hereby sold and conveyed, as aforesaid, and to employ her, if she shall be accepted, in execution of the contract above referred to: but if, after the expiration of one year from the commencement of the performance of the said service under said contract, being required thereto, in writing, by the Secretary of the Navy, the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, or some other for them, shall fail, or shall have failed, to repay in money, or to refund out of the compensation for said service for one year, or out of the value of the said vessel, if before the expiration of one year the same shall be taken into the service of the United States, such outstanding balances, due and unpaid or unrefunded, of such advances as the Secretary of the Navy may have made, prior to the end of one year from the commencement of the performance of the said service under said contract, to the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, assignees as aforesaid, under the said act of Congress of the 3d of August, 1848, with such interest thereon as may have become legally due to the United States, then the said parties of the second part, their successors or assigns, being required so to do by the Secretary of the Navy of the United States, shall, after advertising for six months, in two newspapers published in the

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city of New York, the time and place of such sale, proceed to sell at public auction, for cash, the said steamship and out of the proceeds of said sale shall pay—first, the expenses of executing this trust; secondly, such unsatisfied balances of advances as may be due to the United States as aforesaid; and the balance, if any, to the said Edward K. Collins, James Brown, William S. Wetmore, Elisha Riggs, and Stewart Brown, or their assignees: And upon the further trust, that if, at or before the expiration of one year from the commencement of the said service, the whole amount of advances which may be made under the said act of Congress shall have been repaid or refunded to the United States by the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, either in money or in the said annual compensation, as the same shall fall due under said contract, or in the price of the said vessel, if the same shall be taken into the service of the United States on valuation, then this lien is to be released.

In witness whereof, the parties have hereunto set their hands and affixed their seals, the day and year first above mentioned.

EDWD. K. COLLINS. [L. s.]
JAMES BROWN. [L. s.]
E. RIGGS. [L. s.]
STEWART BROWN. [L. s.]
W. S. WETMORE. [L. s.]
WM. HENRY LE ROY, [L. s.]
*Navy Agent.*
HIRAM FULLER, [L. s.]
*Naval Storekeeper.*
WM. BALLARD PRESTON, [L. s.]
*Secretary of the Navy.*

Sealed and delivered in the presence of—

WM. L. YOULE,

Witness as to the signatures of Edward K. Collins, James Brown, E. Riggs, Stewart Brown, and William S. Wetmore—say five signatures.

GERARD S. BYERS,

Witness as to the signatures of Wm. Henry Le Roy, navy agent, and Hiram Fuller, naval storekeeper.

JNO. ETHERIDGE,

Witness to the signature of Wm. Ballard Preston.

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TREASURY DEPARTMENT,
*Second Comptroller's Office, March 12*, 1850.

I have carefully examined the foregoing deed of trust, and am of opinion that it is valid, and that it constitutes a lien upon said ship, the "Arctic," for such advances as shall be made by the Secretary of the Navy, under the first section of the act of August 3, 1848, chap. 121.

ALBION K. PARRIS, *Comptroller.*

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DISTRICT OF COLUMBIA, } ss:
*City and county of Washington,* }

On the nineteenth day of March, in the year one thousand eight hundred and fifty, before me, the subscriber, a commissioner in and for the said District, appointed by the governor of the State of New York to take the acknowledgment and proof of deeds and other writings, under seal, to be used or recorded in the said State of New York, and to administer oaths and affirmations, appeared the Hon. William Ballard Preston, Secretary of the Navy, and acknowledged that he had executed the foregoing instrument; and I certify that the person who made the acknowledgment is known to me to be the individual described in, and who executed the said instrument.

Given under my hand and seal.

CHARLES DE SELDING, [L. S.]
*Commissioner for the State of New York.*

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STATE OF NEW YORK, } ss:
*City and county of New York,* }

On this twenty-second day of March, in the year one thousand eight hundred and fifty, before me, a commissioner of deeds in and for the city and county of New York, personally appeared William L. Youle and Gerard S. Byers, subscribing witnesses to the execution of the foregoing instrument, with whom I am personally acquainted, who being by me duly sworn, did severally depose as follows: The said William L. Youle did depose and say, that he resided in the city of New York; that he knew Edward K. Collins, James Brown, Elisha Riggs, Stewart Brown, and William S. Wetmore, parties described in, and who executed the said instrument; that he was present and saw them severally sign and execute the same; and that the signature, William L. Youle, signed as subscribing witness to such execution by said parties, was the proper handwriting of him, said deponent. And the said Gerard S. Byers did depose and say, that he resides in the city of Brooklyn; that he knew William Henry Le Roy and Hiram Fuller, parties described in, and who executed the foregoing instrument; that he was present and saw them severally sign and execute the same; and that the signature, Gerard S. Byers, signed as subscribing witness to such execution by the said parties, was the proper handwriting of him, said deponent.

IRVING PARIS, [L. S.]
*Commissioner of Deeds.*

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REGISTER'S OFFICE, } ss:
*City and county of New York,* }

I have compared this instrument with an instrument filed in this office on the 23d March, 1850, at 45 minutes past 10 o'clock, and certify the same to be a correct transcript of such instrument so as aforesaid filed, and of the whole thereof; and I further certify that there is no official seal belonging to this office. Given under my hand, March 25, 1850.

CORN'S ANDERSON,
*Register.*

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This indenture, made and entered into the twenty-sixth day of March, in the year one thousand eight hundred and fifty, between Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, all of the city of New York, of the first part, William H. Le Roy, navy agent of the port of New York, and Hiram Fuller, naval storekeeper in New York, of the second part, and the United States of America, by William Ballard Preston, Secretary of the Navy, of the third part:

Whereas, by virtue of an act of Congress approved March 3, 1847, the Secretary of the Navy, on behalf of the United States, did, on the first day of November, one thousand eight hundred and forty-seven, enter into a contract with Edward K. Collins and his associates, James Brown and Stewart Brown, for the transportation of the mail between the port of New York and Liverpool, in England, in four steamships, convertible into steamships of war, which said contract the said Edward K. Collins, James Brown, and Stewart Brown, assigned to the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, by their written assignment; and whereas, by an act of Congress, entitled "An act making appropriations for the naval service for the year ending the 30th of June, 1849," approved on the 3d day of August, 1848, the Secretary of the Navy is directed to advance to the contractors for the transportation of the mail between New York and Liverpool, in England, or their assignees, for the purpose of enabling them to finish the steamships contracted for under their said contract, the sum of twenty-five thousand dollars per month on each of said ships, after such ships shall have been launched, but the money so to be advanced shall not exceed one year's compensation stipulated for in the said contract, to be secured by a lien on such ships, in such manner as the Secretary of the Navy shall require, and the money so advanced shall be faithfully expended in finishing said ships to the satisfaction of the Secretary of the Navy: and whereas the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, assignees as aforesaid, and under the contract aforesaid, have launched that certain steamship called the "Baltic," which is yet unfinished; and whereas, to enable them to finish their said steamship, they applied to the Secretary of the Navy for such monthly advances on the same as, by virtue of the said act, the said Secretary of the Navy is authorized and directed to make, and are willing and desirous to secure the repayment or refunding of the same from the annual compensation stipulated to be paid for the said service by the said contract by a lien on said ships, in the form of a deed of trust, which has been required by the said Secretary of the Navy:

Now, this indenture witnesseth, that for and in consideration of the premises, and of the sum of one dollar to them in hand paid, before the sealing and delivery of these presents, by the said parties of the second part, they, the said parties of the first part, do bargain, and sell, and convey, and by these presents, the said steamship the "Baltic," with all her tackle, apparel, engines, and furniture, to the said parties of the second part, to have and to hold to them, the said parties of the second part, and to their successors in their respective offices of navy agent and naval storekeeper as aforesaid, or to their assigns: Upon trust, nevertheless, that the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown are to retain possession of the said steamship herein and hereby sold and conveyed as aforesaid, and to employ her, if she shall be accepted, in execution of the contract above referred to; but if, after the expiration of one year from the commencement of the perform-

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ance of the said service under said contract, being required thereto in writing by the Secretary of the Navy, the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, or some other for them, shall fail, or shall have failed, to repay in money, or to refund out of the compensation for said service for one year, or out of the value of the said vessel, if, before the expiration of one year, the same shall be taken into the service of the United States, such outstanding balances, due and unpaid or unrefunded, of such advances as the Secretary of the Navy may have made, prior to the end of one year from the commencement of the performance of the said service under said contract, to the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, assignees as aforesaid, under the said act of Congress of the 3d of August, 1848, with such interest thereon as may have become legally due to the United States, then the said parties of the second part, their successors or assigns, being required so to do by the Secretary of the Navy of the United States, shall, after advertising for six months, in two newspapers published in the city of New York, the time and place of such sale, proceed to sell, at public auction, for cash, the said steamships, and out of the proceeds of said sale shall pay—first, the expenses of executing this trust: secondly, such unsatisfied balances of advances as may be due to the United States as aforesaid; and the balance, if any, to the said Edward K. Collins, James Brown, William S. Wetmore, Elisha Riggs, and Stewart Brown, or their assignees: And upon the further trust, that if, at or before the expiration of one year from the commencement of the said service, the whole amount of advances which may be made under the said act of Congress shall have been repaid or refunded to the United States by the said Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, either in money or in the said annual compensation, as the same shall fall due under said contract, or in the price of the said vessel, if the same shall be taken into the service of the United States, in valuation, then this lien is to be released.

In witness whereof, the parties have hereunto set their hands and affixed their seals, the day and year first above mentioned.

EDW'D K. COLLINS. [L. S.]
JAMES BROWN. [L. S.]
E. RIGGS. [L. S.]
W. S. WETMORE. [L. S.]
STEWART BROWN. [L. S.]
WM. HENRY LE ROY, [L. S.]
*Navy Agent.*
H. FULLER. [L. S.]
*Naval Storekeeper.*
WM. BALLARD PRESTON, [L. S.]
*Secretary of the Navy.*

Sealed and delivered in the presence of—
WM. L. YOULE,

Witness to the signatures of Edward K. Collins, James Brown, W. S. Wetmore, Stewart Brown, and E. Riggs.
GERARD S. BYERS,

Witness to the signatures of Wm. Henry Le Roy, navy agent, and H. Fuller, naval storekeeper.
JOHN ETHERIDGE,

Witness to the signature of Wm. Ballard Preston.

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TREASURY DEPARTMENT,
*Second Comptroller's Office, April* 4, 1850.

I have carefully examined the foregoing deed of trust, and am of opinion that it is valid, and that it constitutes a lien upon the said ship the "Baltic" for such advances as shall be made by the Secretary of the Navy under the first section of the act of August 3, 1848, chapter 121.

ALBION K. PARRIS,
*Comptroller.*

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DISTRICT OF COLUMBIA, } *ss:*
*City and county of Washington,* }

On the sixth day of April, in the year one thousand eight hundred and fifty, before me, the subscriber, a commissioner in and for the said District, appointed by the governor of the State of New York to take the acknowledgment and proof of deeds and other writings, under seal, to be used or recorded in the said state of New York, and to administer oaths and affirmations, appeared the Hon. Wm. Ballard Preston, Secretary of the Navy, and acknowledged that he had executed the foregoing indenture: and I certify that the person who made the said acknowledgment is known to me to be the individual described in, and who executed, the said indenture.

Given under my hand and seal.

CHARLES DE SELDING, [L. S.]
*Commissioner for the State of New York.*

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STATE OF NEW YORK, } *ss:*
*City and county of New York,* }

On this eighth day of April, in the year one thousand eight hundred and fifty, before me, a commissioner of deeds for said city and county, personally appeared William L. Youle and Gerard S. Byers, subscribing witnesses to the execution of the within instrument, with whom I am personally acquainted, and who, being by me solemnly sworn, did severally make oath and depose as follows: The said Wm. L. Youle did depose and say, that he resided in the city of New York; that he knew Edward K. Collins, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, persons described in, and who executed, the said instrument; that he was present and saw them severally sign and execute the said instrument: and that thereupon he (said deponent) subscribed his name as subscribing witness to such execution. And the said Gerard S. Byers did depose and say, that he resided in the city of Brooklyn; that he knew Wm. Henry Le Roy and Hiram Fuller, persons described in, and who executed, the said instrument; that he was present and saw them severally sign and execute the said instrument; and that thereupon he (said deponent) subscribed his name as subscribing witness to such execution.

IRVING PARIS,
*Commissioner of Deeds.*

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REGISTER'S OFFICE;
*City and county of New York,* } *ss:*

I hereby certify that I have compared the preceding with the original instrument, filed in the register's office aforesaid on the 9th day of April, 1850, at twelve minutes past 11 o'clock, and that the same is a correct copy therefrom, and the whole of such original instrument. I further certify that there is no official seal belonging to said office.

Given under my hand, this 9th day of April, A. D. 1850.

CARLISLE NORWOOD,
*Deputy Register.*

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NEW YORK, *October* 2, 1849.

SIR: In obedience to your order of the 29th ultimo, directing me to "furnish the department, as soon as practicable, with a report of the state of forwardness of the steamers intended for the transportation of the United States mail between New York and Liverpool," I have the honor to state that, in my opinion, the "Atlantic" will be the first ship in readiness, and, from her present state of forwardness, it is possible that she may sail some time in the following month of January, as stated in the enclosed copy of a letter of Mr. E. K. Collins; but I do not think the "Pacific," the next in advance, will be ready for sea before the first of March; nor is it probable that the "Arctic" and "Antartic" will be completed much earlier than the first of August next. A full year will be required to complete the "Ethiopic" after the commencement of the work upon her machinery, though the construction of the *vessel* (the materials being ready) can easily be accomplished in half the time.

With great respect, I have the honor to be your most obedient servant,

M. C. PERRY.

The Hon. WM. BALLARD PRESTON,
*Secretary of the Navy, Washington, D. C.*

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NEW YORK, *October* 2, 1849.

SIR: In reply to your inquiries respecting the five steamships for the New York and Liverpool United States mail service, I have to state, the "Pacific" and "Atlantic" will be ready for sea early in January next, (the latter would have been ready sooner had I not condemned part of her machinery;) the "Arctic" and "Antarctic" in all May following. A contract has been made for the "Ethiopic's" frame, (live oak,) to be cut the coming winter.

Yours, respectfully,

EDW. K. COLLINS,
*Agent for the New York and Liverpool U. S. mail steamers.*

To Commodore M. C. PERRY,
*United States Navy.*

P. S.—As yet we are not advised when the Liverpool docks for our ships will be ready; they are working day and night to complete them. You

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are, no doubt, well aware that those docks had to be built expressly for them, as there are no docks in England large enough to receive them.

Respectfully,

E. K. C.

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NEW YORK, *June* 12, 1850.

SIR: In obedience to the order of the Navy Department of the 5th instant, covering a resolution of the United States Senate, bearing date the 27th of May ultimo, we have the honor to submit the following report:

In view of a better explanation of the subjects on which we are called upon to report, we have arranged the inquiries of the Senate under four several heads, and have replied to them consecutively, and with reference to each respective contract.

"*Resolved*, That the Committee on the Post Office and Post Roads inquire and report to the Senate the facts in relation to the respective contracts for building mail steamships, and for the transportation of the United States mail between New York and Liverpool, between New York, Havana and New Orleans, and Havana and Chagres, and between Panama and San Francisco and some point in Oregon:" *First*, "whether such ships have been completed in the manner and at the times stipulated in the contracts respectively; and, if not, what reasons are assigned therefor."

With respect to the contract for transporting the United States mails between New York and Liverpool, entered into by E. K. Collins and associates, and dated the 6th* of March, 1846, the contractors stipulated to build five steamships—four to be ready in eighteen months from date of contract, and the fifth to be completed as early as practicable. By a subsequent law of Congress, the time for the completion of E. K. Collins's contract was extended to the 1st of June, 1850.

Of the vessels above referred to, four have been launched: the "Atlantic," of 2,845 tons; the "Pacific," of 2,707 tons; the "Arctic," of 2,856 tons; and the "Baltic," of 2,723 tons, registered measurement. The fifth has not yet been commenced. The "Atlantic" was inspected on the 5th of April, and the "Pacific" on the 13th of May last, and are now employed under the contract in the transportation of the mails. The "Arctic" and "Baltic" will, it is expected, be ready for inspection in August next.

The ships of Collins's contract are required to be of not less than 2,000 tons burden, with engines of not less than 1,000 horse-power. In tonnage it will be seen that they considerably exceed the prescribed limit, and the effective or working power of their engines is not less than 1,500 horses, though, according to the old rule of Watt and Bolton for estimating the power of steam-engines, their *nominal* power is a little short of 1,000 horses.

In manner and materials of construction of these vessels, the terms of the contract have been complied with, excepting that, instead of engines of direct action, those with side levers have been substituted. (See accompanying paper, marked A.)

The contract of Albert G. Sloo, dated April 20, 1847, was for the construction of five steamships—four to be of not less than 1,500 tons burden.

*1st November, 1847.—*Chief Clerk Navy Department.*

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with engines of not less than 1,000 horse-power, and one of not less than 600 tons burden, with engines in proportion; two of the vessels to be ready on or before the 1st day of October, 1848, and two on the 1st day of October, 1849—no time being mentioned for the completion of the *fifth*. A subsequent modification of the contract authorizes an increase in the dimensions of the four larger vessels.

With respect to this contract, which has been assigned to George Law and associates, the "Falcon," of 1,000 tons, has been purchased by the contractors and temporarily employed, by consent of the department, (so far as the undersigned are informed,) in the transportation of the mails, since December, 1848.

The "Ohio," of 2,432 tons, and the "Georgia," of 2,727 tons, have been constructed and sent to sea, though but one of them has been recognised as coming within the stipulations of the contract. The "Ohio," not being coppered, has not been received. Therefore, of the original ships contemplated *to be constructed*, conformably with the terms of the contract with A. G. Sloo, but one (the "Georgia") has been received, which vessel was inspected on the 24th of January last.

As to the manner of construction of the "Georgia," (the only one received, and, consequently, the only one of which a description can be given consistently with the inquiry,) it may be said that, in the construction of the hull of this and the other larger vessels of Sloo's contract, it was stipulated that she and they were to be equal in manner of build and description of materials to the build and materials of the late United States steamer Missouri; but, as has been heretofore represented to the Navy Department, (see accompanying paper B,) this was impracticable, and the "Georgia" may be considered to be a substantial-built vessel of mixed unseasoned timber, (all the ships of the several contracts have been constructed of mixed unseasoned timber,) similar, but in nowise superior, to the materials used in the construction of the best merchant ships in the city of New York.

In dimensions, the "Georgia" is far beyond the *dimensions originally stipulated for*. But it will be recollected that the contractor reserved the right to add thirty feet to the length and five to the breadth, should he deem it advisable to do so. Her engines, instead of being made of direct action, as provided for in the contract, are constructed with side levers. Their nominal power is short of 1,000 horses, according to the rule of Watt and Bolton, but they can be easily and safely worked at 1,400 or 1,500 horses. These engines and boilers, though differing from those of the "Missouri," (see paper B,) are good; and, in point of speed and excellent sea qualities, the "Georgia" is represented to be, by her commander, Lieutenant D. D. Porter, United States navy, a very superior vessel.

The delay in the completion of the *vessels that have actually been commenced* under the contract with E. K. Collins and associates, and A. G. Sloo, may be chiefly ascribed to the overpress of work at the steam-engine manufactories in the city of New York—the demand for steam machinery having been greatly increased by circumstances growing out of the recent accession of territory to the United States; and probably the manufacturers, unaccustomed to the construction of engines of such magnitude—some of them almost unprecedented as marine engines (in extent of power) in any part of the world—may have miscalculated the time that would be required to complete them. The contractors used every means of hastening the

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completion of the engines. Such as have been put in operation reflect high credit on those who constructed them.

The contract with Arnold Harris, dated the 16th day of November, 1847, (since assigned to Howland & Aspinwall and associates,) provides for three steamers for the transportation of the mail in the Pacific ocean—two of which were to be in burden not less than 1,000 tons, and one not less than 600 tons. No stipulations are mentioned as to model or construction of vessel, or description of engine. They were, however, to be such vessels as might be easily converted to war purposes. The contract for carrying the mail was to go into operation on the first day of October, 1848. In conformity with this agreement, three vessels were constructed and sent to the Pacific.

The "California," of 1,050 tons, sailed from New York on the 6th of October, 1848; the "Panama," of 1,087 tons, sailed 2d December; and the "Oregon," of 1,099 tons, sailed on the 7th December, 1848.

The vessels already built and sent to sea under this contract are good, substantial sea-steamers, though having but one engine and two boilers each —a very serious objection, as, in the opinion of the undersigned, *no steamer intended for ocean navigation, however small her dimensions, should be constructed with less than two engines and three or four boilers.*

*Second.* "Whether such delay, if any, has been detrimental, under all the circumstances, to the interests of the government and the requirements of the service."

In reply to this part of the inquiry, the undersigned do not consider themselves competent to judge advisedly in the premises.

*Third.* "Whether any of said ships have been increased in their tonnage, dimensions, machinery, and, consequently, in their value and effectiveness for naval and mail purposes; and the probable cost of those required by the terms of the contracts, and those actually constructed."

It will appear, from the reply to the first question, that most of the vessels contracted for have been somewhat larger than was probably contemplated by the contracts, and, of course, are proportionally more costly: but they have not been rendered thereby less effective for the transportation of the mails, or for war purposes. The cost of the hulls of these vessels may be estimated as coming within fifty-five to seventy dollars per ton, according to the value of materials and manner of construction.

The stipulated nominal power of their engines has not been increased: and in this respect there may be an objection to the increased tonnage, as the proportional power of steam to tonnage is less than might have been wished, to secure extraordinay speed, though for ordinary purposes of convenient navigation, or for cruising, the power of the engines is in fair proportion to the tonnage.

In the conversion of these vessels to war purposes, considerable alteration would be required; and though they can never be made equal to those steamers originally designed and constructed expressly for the navy, still they can be rendered available in cases of emergency, and without any very great disbursement of money. Much of the expense, in the construction and equipment of the mail steamers, has been disbursed in the arrangement and decorations of the cabins for the accommodation of passengers. Of course it could not, in case of their transfer to the navy, be expected that these items of cost should be taken fully into account in the appraisement provided for in the contracts. As the undersigned understand the letter

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and spirit of all these contracts, the United States have the right—and the exercise of such right is altogether optional with the government—to take possession of these vessels at any time of need, at a valuation to be appraised upon terms expressly provided for.

*Fourth.* "And whether the mail service is now performed by said lines, respectively, according to their contracts, and what compensation has been paid therefor; and whether any further provisions of law be necessary to secure the more effectual performance of said service, and the other objects contemplated by said contracts."

The undersigned are not possessed of sufficient information to authorize a reply to this part of the inquiry.

With great respect, we are your most obedient servants,

M. C. PERRY,
R. B. CUNNINGHAM.

The Hon. Wm. Ballard Preston,
*Secretary of the Navy, Washington.*

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A.

*Extract from report of Commodore M. C. Perry to the Navy Department, dated January 30, 1849, upon the subject of mail steamers under contract with the Navy Department.*

"As the contract with Mr. Collins does not refer to any particular vessel as a guide for the model or manner of construction of his ships, he has availed himself of the best materials at command, and of his well-known judgment and experience as a ship-builder, in producing two* very superior sea-steamers. The deviations from the provisions of his agreement are, in some respects, that his vessels, according to the statements of Captain Skiddy,† are better fastened than was contracted for, and, instead of engines of direct action, he has also preferred the side-lever engine. These will be of nominal power about 900 horses, but of sufficient capacity to work conveniently at a higher rate.

"The several contracts provide that all the steamers shall be so constructed as to be easily converted into war vessels, should the government exercise its right of taking them into the public service, under certain stipulations. So far as respects their suitableness for convertibility, it may be remarked that, in view of the service which they are expected to perform to their present owners in the transportation of the mails, with passengers and freight, they will be fitted with numerous cabins, below and above deck. These, or most of them, would be necessarily removed for the reception of an armament and the requisite crew of a vessel of war; and it would also be necessary to arrange magazines, shell rooms, shot lockers, and other secure lock-up places in the hold, in which there would be ample space."

* The "Baltic" and "Arctic" had not then been commenced.—Noted June 12, 1850.
† The superintending naval constructor.

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B.

*Extract from report of Commodore M. C. Perry to Navy Department, January 30, 1849.*

"The contract of Mr. Sloo stipulates that his vessels shall be constructed of approved materials and fastenings, similar to those of the late United States steamer Missouri, to have engines of direct action of one thousand horse-power. The deviations are, that the materials and fastenings are not equal to those of the Missouri, and instead of direct-action engines, they are to have the ordinary side-lever marine engines—a kind more generally in use, and of cost quite equal to those contracted for. Those under construction will be nominally somewhat less than one thousand horse-power: but the various modes of calculating the power of engines are in a great measure conventional, and it may be correctly estimated that those at present referred to may be safely and practically worked up to the stipulated extent, if not to greater power. The models of these vessels are excellent, and they bid fair to have good speed—much greater than that of the Missouri or Mississippi—owing to their lighter frames and rig.

"It is but just to state that some of the provisions of this contract stipulated for that which could not possibly be accomplished within any reasonable space of time. At no period in the last ten years could an entire frame of live oak and other approved kinds of *seasoned* timber be procured in New York for a first-class steamer, unless from the navy-yard."

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NEW YORK, *June* 15, 1850.

SIR: In obedience to the requirement of your order of the 5th instant, received through Commodore M. C. Perry, I have this day signed his report upon the subject of ocean mail steamers called for by the Senate in a resolution passed on the 27th of May ultimo, and have the honor to make this communication, in order that you may fully understand why I could not, under the circumstances, assume to impart information, when in fact I possessed none that the Senate's resolution called for; nor could I have obtained it from any source which would be considered reliable by the government other than from the commodore himself. He is cognizant of every important characteristic of the various lines of ocean mail steamers—of their construction, building materials, model, finish, equipment, and power and quality of their engines; whereas I have seen but four of the whole number embraced in the Senate's inquiry, have examined but two of those, viz: the "Atlantic" and "Pacific," and have obtained no positive information as to the requirements of the different contracts between the parties, until it was presented to my notice in the commodore's report. I have read the report carefully, and have bestowed upon it the consideration that its importance demands, and believe that those points in the resolution which have been responded to cannot fail to impart to Mr. Davis and the Senate the desired information.

The term "adapted to war purposes," used, I believe, in all contracts heretofore made by the government with individuals or companies, is, in my opinion, too vague and general to admit of strict or rigid construction. A sea-steamer may in truth be said to be adapted to war purposes, in a

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certain degree, when she is capable of transporting a large body of men, with their necessary baggage and munitions of war, from any one point to any other point on our Atlantic coast—be fully equal to the severe duty of towing the largest class of line-of-battle ships in or out of action, as the case may be—and yet be incapable, from the slight construction of her upper-works, of carrying three heavy pivot-guns or a small battery of carriage-guns.

I would, therefore, respectfully suggest that, in all future government contracts, (which I sincerely trust will be few and far between,) the building materials, with their exact dimensions when dressed, and also the fastenings, their quality and quantity, and every other requisite material needed in the construction of a United States war steamer, be *specifically named in detail and provided for by law*: and further, that it should be required that the chief naval constructor, under the direction of the Secretary of the Navy, should examine and attend *to the wording* of that particular and important portion of all contracts for building ocean mail steamers adapted to war purposes.

It strikes me forcibly that, if something similar to this could be incorporated in the law "providing for the building of ocean mail steamers adapted to war purposes," the government would be relieved in a great measure of many annoyances that it must be subject to as long as the present state of things exists.

I have the honor to be, with great respect, your obedient servant,

R. B. CUNNINGHAM, *Commander*.

Hon. Wm. Ballard Preston,
*Secretary of the Navy, Washington.*

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United States mail steamer "Georgia,"
New York, *June*, 1850.

Sir: We arrived at this port on the 9th of June, after a run of four days from Havana—the ship performing as well as usual, and leaving me little to report concerning her. I regret that I have been unable to furnish you with the steam-log, as I expected to have done, as the chief engineer has from time to time delayed to furnish me a copy: and I am of opinion that no confidence was to be placed in his log, from the fact that most of it was written from memory.

I beg leave to call the attention of the government to the engineer department of these vessels, and beg that some stringent rules and regulations be drawn up for the government of said department, under authority of the Secretary of the Navy, as the Hon. Secretary of the Navy is invested with the control of the steamships under the law regulating the contract. Up to the present moment no laws have been enacted regulating the shipment of engineers, firemen, and coal-heavers in the merchant service, and that class of men assume to themselves privileges which have been granted in most of the mercantile steamships, but which cannot be tolerated in a vessel under the control of the government.

On my last trip to Chagres, I found it necessary to put my chief engineer off duty for disrespect and incapacity. Acting by his influence, four of the assistants refused to acknowledge any one's authority on board the ship. I had them all put in double irons and confined to their rooms, treating

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them as mutineers, and kept the chief engineer in his room, with a watch over him, to prevent any communication with the others. Notwithstanding which, he endeavored to tamper with the firemen, and get up a mutiny in the ship. The example made of the officers no doubt had a salutary effect on the crew. I reported the matter to the company, who neither approved nor disapproved of the course I took—certainly the only course a commander can take under such circumstances, and one evidently for the best interests of the company. It would certainly be an anomaly in either the naval or mercantile marine for a commander to be in a manner subject to the dictation of a set of engineers, no matter what their abilities might be. If the law does not regulate the matter, results injurious to commerce will follow; and one or two bad precedents may produce results much to be regretted.

As matters now stand, the commanders of these ships are subject at any time to civil suits from every dirty coal-heaver who may consider himself aggrieved, or who may not be permitted to throw aside the wholesome restraint of discipline. We have no guarantee that the company will assume any responsibility in the course we take to maintain subordination, and one suit alone would be enough in the marine courts of New York to impoverish a commander. The whole matter can be regulated in the simplest manner possible by enlisting every man in the ship under the naval regulations, and having the collectors of the ports we clear from notified of that fact, with directions for the steamers so to clear. I do not think it advisable that the commander and younger officers on board the vessels should lose sight of that discipline which should constitute the strength of the navy, which must in a manner occur if the ships are not regulated by the Navy Department, or by a law of Congress. I am now threatened with five suits at law, by five persons whom I placed in durance for mutinous behaviour; and though it is not likely that I should be cast by any honest jury for the course I pursued, yet I could ill afford to pay a lawyer's fee to defend me. This service is one in which officers have better opportunities to gain experience than perhaps in any other position in the regular service; but officers will lose their zeal when they find the duty coupled with vexation, arising chiefly from the want of regulations from a source there is no disputing.

The department will at once see the importance of placing the commanders of these ships in a position which will free them from vexatious suits. When such regulations are put in force as will secure the desired object, the service will be creditable to the navy, and of infinite advantage to the young officers. I feel it my duty, as one of the pioneers in the mail steam service, that it should be placed upon a footing that will benefit all parties concerned; and I am convinced that the owners will be consulting their own best interests by giving their support to my present recommendation.

I remain, very respectfully, your obedient servant,

DAVID D. PORTER.

Com. M. C. PERRY,
*New York.*

Forwarded to Navy Department.

M. C. PERRY.

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NAVY DEPARTMENT,
*August* 16, 1850.

SIR: In compliance with the request contained in your letter of the 9th instant, I have the honor to transmit herewith "a statement of the aggregate cost, &c., of the ships-of-the-line, frigates, and steamers of the navy, and of the cost of a ship of each class in commission and in ordinary," prepared by the Bureau of Construction, Equipment, and Repair.

I have the honor to be, very respectfully, your obedient servant,

WILL. A. GRAHAM.

Hon. THOMAS J. RUSK,
*Chairman of the Committee on the Post Office and Post Roads,*
*United States Senate.*

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*Aggregate cost of ships-of-the-line, frigates, steamers, &c., prepared by the Bureau of Construction, Equipment, and Repair, in answer to an inquiry from the Committee on the Post Office and Post Roads.*

| | | |
|---|---|---|
| Hulls | $3,632,000 | |
| Armament and equipments | 2,253,300 | |
| Stores | 304,500 | |
| Aggregate cost of the ten ships-of-the-line | | $6,090,000 |
| Hulls | 3,382,500 | |
| Armament and equipments | 2,460,000 | |
| Stores | 307,500 | |
| Aggregate cost of the sixteen frigates | | 6,150,000 |
| Hulls and engines | 2,781,300 | |
| Armament and equipments | 469,200 | |
| Stores | 100,500 | |
| Aggregate cost of the seven war steamers | | 3,351,000 |
| Total cost or value of seventy-four gun-ships, frigates, and war steamers | | 15,591,000 |

*Annual cost of ship-of-the-line—first class.*

| | |
|---|---|
| For repairs or renewal | 78,000 |
| For pay and provisions for 820 persons | 209,500 |
| | 287,500 |

*Annual cost of frigate—first class.*

| | |
|---|---|
| For repairs | 51,000 |
| For pay and provisions for 480 persons | 135,000 |
| | 186,000 |

*Annual cost of steamer—first class.*

| | |
|---|---|
| For repairs | 66,000 |
| For pay and provisions for 300 persons | 98,500 |
| Coal for 90 days—3,150 tons, at $8 | 25,200 |
| | 190,000 |

*Annual deterioration or cost in ordinary.*

| | |
|---|---|
| For ship-of-the-line | 25,200 |
| For frigate of first class | 16,000 |
| For steamer of first class | 26,200 |

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OFFICE UNITED STATES MAIL STEAMSHIP COMPANY,
*New York, June* 20, 1850.

SIR: We had the honor to receive, on the 6th of June instant, your favor of the 4th, enclosing, by direction of the Committee on the Post Office and Post Roads, a copy of the following resolution, adopted by the Senate of the United States:

"*Resolved*, That the Committee on the Post Office and Post Roads inquire and report to the Senate the facts in relation to the respective contracts for building mail steamships, and for the transportation of the United States mail between New York and Liverpool, between New York, Havana, and New Orleans, and Havana and Chagres, and between Panama and San Francisco and some point in Oregon: whether such ships have been completed in the manner and at the times stipulated in the contracts, respectively; and, if not, what reasons are assigned therefor; whether such delay, if any, has been detrimental, under all the circumstances, to the interests of the government and the requirements of the service; whether any of said ships have been increased in their tonnage, dimensions, and machinery, and consequently in their value and effectiveness for naval and mail purposes, and the probable cost of those required by the terms of the contracts, and those actually constructed; whether the mail service is now performed by said lines, respectively, according to their contracts, and what compensation has been paid therefor; and whether any further provisions of law be necessary to secure the more effectual performance of said service, and the other objects contemplated by said contracts."

In answer to the inquiries contained in said resolution, the undersigned, on behalf of the United States Mail Steamship Company, beg leave respectfully to submit the following statement in relation to the contract between the Navy Department and said company for conveying the mails between New York, Havana, and New Orleans, and Havana and Chagres, with such additional facts as may be deemed pertinent to the inquiries, and to the general subject of a combined naval and commercial steam marine for any ultimate war purposes, and for conveying the mails.

As early as the year 1835, the attention of the British government was directed to the plan of changing the mode of conveying the mails by the ships of the East India Company and the government, and adopting the contract system with individuals and companies, with a view to combining the essential properties of a naval and commercial steam marine.

In consequence of the report of the commissioners appointed by Parliament to inquire into the management of the English Post Office Department in 1836, the mail steam-packet service was transferred to the admiralty. The report stated the conviction of the commissioners of inquiry that "the advantages which a system of contract must generally secure to the public over one of the establishment, however well conducted, were such that they wish they could have felt justified in recommending that it should be universally and immediately adopted."

The secretary of the admiralty stated that, "in acting upon this opinion, the admiralty entered into contracts for conveying the mails by steam vessels to and from Spain and Portugal, and subsequently between Alexandria and England, with the Peninsular and Oriental Steam Navigation Company. Contracts were also entered into for the conveyance of the mails between England and North America, and England and the West Indies and Mexico." That "the execution of all these contracts, with the exception



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of the latter, had given general satisfaction. But for this exception, the extent and complication of the plan at its commencement afforded some apology." That "the spirit in which the steam contractors had generally executed their contracts merited notice, as they had in almost every instance exceeded the horse-power stipulated in their agreements, and thus insured an accuracy in the delivery of mails which experience has shown, if the letter of the contract had been adhered to by them, would not have been the case." And that "the contract system had been generally satisfactory to the admiralty and the public, and had tended largely to increase the steam tonnage of this country, (England,) to encourage private enterprise in scientific discovery, and the regulation and economical management of steam."

Such, certainly, were among the valuable results of the system; but these were not the only considerations that led to its adoption. The English government, with the forecast for which that far-reaching power is distinguished, saw the advantages which an extended steam marine would give to its commerce over that of every other nation in the world. It saw also the value of connecting this great branch of the national service with the commercial and practical skill of the country. It soon formed and matured its plan, embracing within its scope nearly the entire commercial world. Steam lines, as stated in the preceding extract from the admiralty report, were established radiating from England to all the prominent European ports, to the Mediterranean, to Egypt, the East Indies and China, the West India Islands, South America and Mexico, the ports in the Gulf of Mexico and Havana, the United States and the English colonial possessions in North America, and to the islands and ports in the Pacific ocean. This vast chain of intercourse was not only completely established, but it became a matter of national policy to enlarge, strengthen, and maintain it. By it much of the commerce of the world by steam, and nearly all the letter-carrying by steam between this continent and the European ports, and even the distant parts of our own territory, were engrossed by British ships. The extent of this formidable plan will be understood by glancing at the following table of the principal routes, and the amount of annual compensation provided by the government of England:

| | |
|---|---|
| To the Peninsular and Oriental Steam Navigation Company, for conveying the mails, &c., between Suez and the East Indies, and between Ceylon and China, twice a month, employing three steamships of 1,800 tons, and one of 650 tons | $800,000 |
| To the Mediterranean line | 180,000 |
| To the Royal Mail Steam-packet Company, for conveying mails between England, the West India islands, the Gulf of Mexico, Havana, Chagres, Panama, and other places, semi-monthly and monthly, fourteen ships, of from 500 to 1,500 tons | 1,200,000 |
| To the British and North American Royal Mail Steamship Company, (Cunard line,) for conveying mails, &c., between England, Boston, and New York, once a week during eight months, and once a fortnight for four months, nine ships, of from 1,200 to 2,200 tons | 725,000 |
| To the South Pacific line, between Panama and Valparaiso, touching at intermediate places, monthly, four ships | 100,000 |
| To the South American line, between Falmouth and South America, Brazil, Buenos Ayres, &c. | 100,000 |
| To the Callao and Valparaiso line | 75,000 |
| | 3,180,000 |

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These several lines and routes employ about forty steam-vessels, from 500 to 1,800 tons burden, all built under contracts with the government, and embracing the various parts of an extended plan of combining the elements of an efficient and practical naval and commercial steam marine. To these may be added the British continental lines and the home steamers, making a grand aggregate of one hundred and forty steamships.

Important national considerations, aside from the design to engross for British bottoms and British capital the trade and intercourse of the commercial world, and especially with the American continent and islands, entered into the government plan. It was ascertained to be a far less expensive mode of maintaining a naval steam force adapted to the purposes of government, and to any emergency that might require these ships for other than mail purposes, than to build, equip, and keep in service national steamships of war. The experiment has proved its adequacy to the intended object; and it continues not only to receive the approval of the admiralty and government of England, but to be continually undergoing enlargement and expansion.

Of these great lines, the two more directly affecting the trade and interests of this country were the Liverpool and Boston or Cunard line, and the West India and Chagres line, known as the Royal Mail Steam-packet Company. A brief notice of the latter will serve to illustrate the policy of the English government and people in the progress in this branch of mail steam service, and the necessity and wisdom of a counteracting policy on the part of our own government.

The West India mail steam line was proposed to the British government in April, 1839, by sundry merchants of London. A charter was granted to the contractors in that year, under the title of the Royal Mail Steam-packet Company. It embraced the following routes:

1. *Outward Atlantic Route.*—From Southampton to Madeira, Barbadoes, and Grenada—steamer, every 15 days.

2. *Trinidad route.*—From Grenada to Trinidad and Barbadoes—steamer, every 15 days.

3. *Demarara route.*—From Grenada to Courland bay, (Tobago)—steamer, every 15 days.

4. *Northern Islands route.*—From Grenada to St. Vincent, St. Lucia, Martinique, Dominique, Guadaloupe, Antigua, Montserrat, Nevis, St. Kitts, Tortola, St. Thomas, and St. Johns, (Porto Rico)—steamer, every 15 days.

5. *Jamaica and Mexican route.*—From Grenada to Jacmel, (Hayti,) Kingston, Havana, Vera Cruz, and Tampico—steamer, every 30 days.

6. *Jamaica and St. Jago de Cuba route.*—From Grenada to Jacmel, Kingston, St. Jago de Cuba, St. Juan's, (Porto Rico,) and St. Thomas—steamer, every 30 days.

7. *Bermuda, Havana, and Jamaica route.*—From St. Thomas to Bermuda, Nassau, Havana, Kingston, Jacmel, St. Juan's, and St. Thomas—steamer, every 30 days.

8. *Homeward Fayal route.*—From St. Thomas to Fayal and Southampton—steamer, every 30 days.

9. *Laguayra route.*—From Grenada to Laguayra, Porto Cabello, and St. Thomas—steamer, every 30 days.

10. *Panama and St. Jago de Cuba route.*—From Kingston (Jamaica) to Santa Martha, Carthagena, Chagres, and St. Juan de Nicaragua—steamer, every 30 days.

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11. *Honduras route.*—From Havana to Balize, (Honduras)—sailing schooner, every 30 days.

The company were required to build and keep seaworthy not less than fourteen efficient steam-vessels, ten of which to be of such construction and strength as to be fit to carry guns of the largest calibre used on board her Majesty's steam-vessels of war, and to be of 400 horse-power; the remaining four to be of 250 horse-power, and to be fit to carry guns of the same calibre as steam-vessels of similar power in her Majesty's service; and two sailing vessels of 100 tons burden. All said ships to be manned by competent officers, to be either of the royal navy or to be examined and approved by the government board of examiners. To convey the mails twice a month between several of the places mentioned, and monthly between others. The total distance to be performed annually 389,448 nautical miles, and, if a fortnightly mail should be required between Jamaica, Chagres, &c., 415,008 miles, at a speed not less than five miles per hour nor more than eight. For this service the company were to receive £240,000; and for any additional service by the same vessels, at the rate of 11*s.* 6½*d.* per mile; and, in the event of being subjected to any increased cost of insurance, or for freight of coals, a further sum, not exceeding £60,000 per annum; the government having the right at any time to purchase or charter any of said vessels at a valuation.

By the terms of the contract, (signed in March, 1840,) the company were required to commence the full service in August, 1841. But, nearly three years after the proposal was made to the admiralty, and nearly one year and six months from the signing of the contract, viz: at the close of the year 1841, the company were able to offer for inspection and acceptance only seven steamships; and, knowing the impossibility of complying with the requirements of their contract, they applied to the admiralty, requesting the postponement of the commencement of the service until a sufficient number of their vessels could be got ready to carry the whole plan into execution. The admiralty stated in reply that they "viewed their wish for a relaxation of the contract indulgently, and even favorably," although at the moment it involved a serious public inconvenience, as arrangements had been made for withdrawing the mails from sailing vessels and steamships of the establishment. The admiralty at once proposed to allow the company to commence the service partially with six steamers; and when, in 1842, great derangement occurred, owing to inadequate preparation, to obstacles in carrying out the company's plan, to difficulties in coaling, &c., and notwithstanding collisions of duty between the agents on the ships and the government officers at several of the ports, the government came liberally to the aid of the company, assisted them in procuring supplies of coal, furnished four or five of her Majesty's vessels to facilitate the transportation of the mails, and the deputy postmaster general at Jamaica and the British consul at Havana aided in procuring sailing vessels for that purpose. The contract was not finally carried into full operation until a still later period; was renewed and extended in July, 1846; and has been recently still further enlarged and extended.

The contract system, combining the efficient features of an extended commercial and government steam marine, was thus adopted after full investigation on the subject by the board of admiralty, the treasury, and the different government departments, including the postmaster general. The merits and benefits of this system have been tested by England. That gov-

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ernment was the first to engage in it, and, as we have already stated, fully approve, and are constantly extending it. The committee of inquiry of Parliament, as we have already quoted, say truly that it "had tended largely to increase the steam tonnage of that country, to encourage private enterprise in scientific discovery, and the regulation and economical management of steam." After an examination of it in the most scientific and practical manner, that government regards it as altogether more economical for the nation, and for the general public interests, than the exclusive employment of government vessels. The ships built by the contract companies have far exceeded in speed and other essential qualities the ships constructed by government. A far greater amount of service was obtained, at a cost much less than would be incurred by government in building, equipping, manning, and running national vessels for even a partial performance of the same service. Individual and associated skill, enterprise, and capital were called into requisition, and, aided by government means, contributed to enlarge, extend, and fortify the naval and commercial power of England.

The practical operation of this great system of steam lines was to place within the reach of English vessels, of a semi-national character, and ready to be converted into ships of war, our entire southern coast and harbors, besides yielding to them the foreign trade, commerce, and letter-carrying, by steam, to and from all parts of our country. To meet and counteract this state of things, became the object and duty of the American Congress and government. It was the more obvious at that time particularly, engaged as we were in a war with Mexico, and our only means of coast defence of any force being a single steamer, and she not capable of entering the southern harbors, while English steam fleets literally filled and occupied our waters. To counteract, so far as was demanded by the requirements of our own commerce, and the defence of our coast, a monopoly so formidable, which had grown up under the direct and liberal co-operation of the English government, and the supposed superiority of English machinery, required the aid of Congress; for it was evident that unaided American enterprise and capital could not cope with it. Accordingly, at the close of the session of 1847, the Congress of the United States passed an act authorizing the Secretary of the Navy to contract with sundry parties and different steam lines for the construction of ocean steamships, as part of the plan of a combined naval and commercial steam marine, in connexion with the mail service.

Among the prominent parts of this system, the act of Congress aforesaid authorized the Secretary of the Navy to contract with Albert G. Sloo for the construction of five steamships; four of not less than 1,500 tons burden, and one not less than 600 tons. They were required to be built under the direction of a government naval constructor, in a manner specifically set forth in the act, viz: after the model of the late United States steamship Missouri; to be adapted to all the purposes of war steamships of the first class; and to form, whenever required by the Navy Department, a part of the naval armament of the United States. They were to be commanded by officers of the navy of the United States of the rank of lieutenant, with four passed midshipmen on each ship as watch-officers. They were required also to transport the mails from New York to Havana and New Orleans, touching, if practicable, at Charleston and Savannah, and between Havana and Chagres and back twice in each month. For this service, government

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stipulated to pay $290,000 per annum throughout the duration of the contract—a period of ten years.

Simultaneously with, and a part of, the act of Congress authorizing this contract, were two other similar contracts—one with Arnold Harris, (subsequently assigned to Howland & Aspinwall,) for the construction of three steamships, two of not less than 1,000 tons burden, and one of not less than 600 tons, for the transportation of the mails from Panama, on the Pacific, to San Francisco and Oregon and back, once a month, at $199,000 per annum; and the other with E. K. Collins and his associates, for the construction of five steamships, for conveying the mails from New York to Liverpool and back twice each month, at a compensation for the service fixed at $385,000 per annum.

These (with the previously authorized line from New York to Bremen) were the various parts of a complete and important plan adapted to the growing wants of the public service, and for providing an adequate steam marine, whenever the exigencies of the country might require it, and for facilitating intercourse and the transmission of the mails between remote parts of our own country and other nations. For the due performance of it in all its ramifications, it required a large aggregate of capital, skill, and intelligent enterprise. After a lapse of nearly three years, portions of the undertaking have gone into efficient operation; and already the fruits of it—its utility, and its advantages and benefits to the American government and people—have been demonstrated. When the various parts shall be completed, and the plan in all its features shall be in full operation, its immediate practical results, aside from its prospective effectiveness in furnishing a class of war steamers for any ultimate purpose of the American government, will be found fully to justify the action of Congress and the participation and favor of the government, and confirm the public confidence in its great utility and value.

Viewing the matter in this enlarged and liberal light, the undersigned entered into an agreement with Mr. Sloo to construct the ships; and his contract with the government was assigned to them, with the assent and approval of the Secretary of the Navy, which approval they regarded as an essential condition of the investment of their capital. The assignment was accepted and filed in the Navy Department about the 1st of October, 1847.

When it came to the knowledge of the English government that Congress had entered into contracts establishing steam lines to Chagres, Havana, and New Orleans, its first movement to counteract or discourage the proposed American line in that direction was to run branches of the Royal West India mail line from Bermuda to New York, and from Jamaica to New Orleans and Mobile. Now that the American line to Chagres has gone into full operation, and the news from the Pacific comes by this line to New York, and thence to Liverpool, some fifteen days sooner than the same news brought by the British line,* the English government has revised, enlarged, and extended its West India line. It has entered into a new contract with the Royal Mail Steam-packet Company, a material feature of which is to run a main line direct from Southampton to St. Thomas, and

* By the contract of 1846 with the West India Royal Mail Steam-packet Company, the voyage from Chagres to Southampton is performed in 38 days. By the United States Mail Steamship Company the voyage from Chagres to New York, and thence to Liverpool, is performed in 22 days.

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thence to Chagres and back, twice a month, with steamers of larger capacity and power, and with a proposed speed of from twelve to fourteen miles per hour. For this line, five or six new steamships are, under the contract, to be built, while the old vessels are to form branches from this main line or trunk to other of the routes of this great and extended plan of steam intercourse and letter-carrying; at the same time that government will withdraw its branches to the Balize, Mobile, and New York, extend its line to Rio de Janeiro, and enlarge its line in the Pacific, from Panama to Valparaiso, converting it from a monthly to a semi-monthly route.* These movements

* The London Athenæum contains the following account of these new and extended arrangements by the English government for enlarging their ocean steam marine in connexion with the mail service in the American quarter of the globe:

From the London Athenæum.

"OCEAN MAIL STEAMERS.

"*The England, South America, West Indies, and Isthmus line.*

"The long-pending scheme of the British government for the organization of a complete system of steam communication with the West Indies, Mexico, Brazil, and the Pacific, to which we have already alluded, has just been brought to a conclusion. The main features are as follows:

"1. There is to be a great trunk line of steamers—or, as the 'Times' well calls it, a 'great steam bridge'—direct from Southampton to the Isthmus of Panama. Every fortnight, a first-class steamer, making from twelve to fourteen knots an hour, is to sail from Southampton by this line, stopping first at the Island of St. Thomas, which distance it will accomplish in about twelve days. In St. Thomas's bay, three branch steamers will be waiting, which, receiving their respective mails, will instantly proceed on separate routes—one to Havana and the Gulf of Mexico; another to Porto Rico, Hayti, Jamaica, San Jago de Cuba, Honduras, and Nicaragua, &c.; a third to the Windward and Leeward islands, as far as Demarara. The main line steamer, having thus disposed of its branch mails, will steam on from St. Thomas direct for the little town of Chagres, on the Isthmus of Panama. Here it will disembark its Pacific mails for transportation across the isthmus, and, receiving in return the homeward mails from the Pacific, will be ready for its return voyage. Steaming back to St. Thomas's, it will there find the three branch steamers, whose return voyages from the three above-mentioned routes will be so arranged that they shall always (except in case of accident) arrive in time to give and take mails with the trunk steamers; then it will proceed direct to Southampton, bringing the Pacific mails, and the mails of the three foregoing West Indian routes. It is calculated that, by this system of direct Atlantic steamers, an accelerated communication of from twelve to sixteen days will be secured for all the ports concerned.

"2. To correspond with these arrangements for the Atlantic side of America, it is in contemplation by the admiralty 'to agree with the Pacific Steam Navigation Company for a fortnightly mail to and from Panama and Valparaiso, in place of the present monthly steamer.' This will bring Chagres, and consequently England, into much closer approximation to the western coast of South America; while it is possible that ultimately similar arrangements may be extended to California and the North American coast of the Pacific.

"3. There is to be a monthly mail to Brazil, with an independent line of packets. 'Starting from Southampton, the steamers will proceed to Funchal, (Madeira,) Santa Cruz, (Teneriffe,) Porto Praya, (Cape Verde,) Pernambuco, Bahia, and Rio Janeiro. From Rio Janeiro there will be a branch packet to Monte Video and Buenos Ayres.' The admiralty have not sanctioned the proposed touching at Lisbon; which is to be regretted, as the advantage of the traffic between Portugal and the Brazils is thus lost to the contractors. It is supposed, however, that there will be a branch packet between Lisbon and Madeira, which will partly serve the purpose. The distance between England and the Brazilian ports, according to the preceding arrangements, will be as follows: To Pernambuco, eighteen or nineteen days; Bahia, twenty or twenty-one days; Rio de Janeiro, twenty-four or twenty-five days. But one great feature of this Brazilian line is the possibility of its future extension so as to reach western and southern Africa. Porto Praya is but 710 miles distant from Sierra Leone, which, accordingly, could be easily reached by a branch steamer; while another branch steamer from Porto Praya to the cape would bring our South African possessions within thirty-five days of England. As regards the period when the foregoing extensive arrangements are to be carried into effect, much depends on the time that must

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show not only the immediate results of American enterprise in ocean steamships, and the important consequences, aside from any purposes of coast and harbor defence, to which it has already led, but the strong public reasons on the part of our government to foster, continue, and encourage it. It has already counteracted the best efforts of the large and long-established English steam lines, and transferred the commerce and letter-carrying so long exclusively enjoyed by them to American ships. If promoted and favored by the Congress of the United States, it will still meet and counteract the new efforts of the English government to recover the ground which American skill, enterprise, and capital, aided by the government, have won from them.

In relation to the comparative cost to the two governments by which these lines of ocean steamers, in connexion with the naval and mail service, are maintained, it will be seen that the British government pays as much for its single West India and Chagres line as the American government pays for all its lines—Liverpool and New York, New York and Bremen, New York and Havre, New York, Havana, New Orleans, and Chagres, and Panama and San Francisco. The entire annual payments by the British government amount to $3,180,000. Those by the American government, when all its lines shall be in full service, will be $1,215,000. The British West India Mail Steam-packet Company are paid $3 08 per mile for mail service; the United States Mail Steamship Company, $1 88 per mile.

The undersigned have felt justified, in their reply to the first inquiry of your committee—viz: as to "the facts in relation to the respective contracts for building mail steamships, and for the transportation of the United States mail therein," &c.—in giving these details respecting the origin of the mail steamship contract system, and its effects in England and in this country upon the commerce, letter-carrying, and intercourse of both nations.

In answer to the second and third inquiries—viz: "whether said ships have been completed in the manner and at the times stipulated in the contracts, respectively, and, if not, what reasons are assigned therefor; and whether such delay, if any, has been detrimental, under all the circumstances, to the interests of the government and the requirements of the service"—the undersigned beg leave to submit the following facts:

Notwithstanding the burden of the ships for the New York, Havana, New Orleans, and Chagres line had been fixed at 1,500 tons, it was believed that the interests of government and the business in which they were engaged would be promoted by vessels of much larger tonnage. For all immediate or ultimate purposes of government, it cannot be doubted the larger ships would be most serviceable and most valuable. For carrying an armament and for all war purposes, their superiority over smaller vessels, of less com-

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elapse before the necessary preparations in the way of building new steamers and repairing old ones can be complete. It is hoped that the Brazil line may be ready by August or September next; and though it would take a year to get the steamers ready for the purposed West India and Pacific route, it is not unlikely that even with the existing vessels, something of the plan may be carried into effect soon. The sum of £240,000 per annum, now paid to the West India Mail Company for the conveyance of the West India mails alone, will, it is understood, suffice to cover the expenses of the whole proposed system; besides which, there will be a retrenchment of £30,000 a year, now spent in maintaining her Majesty's brigs between Falmouth and Brazil. All this, we may say in conclusion, increases the peremptory necessity of the great canal across Panama, which will sweep the little form of Chagres out of its present impudent littleness into nothingness."

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parative strength and far less effectiveness, was obvious. For speed, also, in transmitting the mails, and for capacity, as well as expedition, in transporting troops, they were considered much superior. At the request of Mr. Sloo, the original contractor, and not without the approval of the Secretary of the Navy, the ships were enlarged to those of the largest class, one (the "Ohio") of 2,434 tons, and the other (the "Georgia") of 2,727 tons, and their construction entered upon by the undersigned with the knowledge and at least implied approbation of the government.

But they had many obstacles to overcome. They were the pioneers in the construction of ocean steamships of this magnitude. American ship-builders and engine-makers were without experience in the construction of large steamships. Much time was necessarily consumed in procuring the proper plans and models of the hulls, and especially the machinery. Aside from these difficulties, it was well known to all the parties and to the Secretary of the Navy, at the time of completing the assignment of the contract to the undersinged, that, with the increased size of the ships, their completion at the period therein named was an impossibility, and that contracts with ship-builders and engine-makers could not be made for their being finished within from six to nine months beyond the period named. And the result was, that, although contracts for the engines were made, in which it was stipulated that they should be completed for the "Ohio" on the 9th of May, 1849, and for the "Georgia" on the 9th of July in that year, they were not completed until September in the one case, and December in the other. These facts were reported from time to time to the Navy Department.

In consequence of the greatly-increased size of the ships, and with a knowledge of the fact that delay in their completion was unavoidable, Congress, late in the session of 1848, did not hesitate to renew an expression of its approval of the system and the progress in building the ships, and virtually to sanction the delay in their construction, by authorizing an advance to the undersigned, as also to the other two mail steam lines, of the amount of one year's mail service, to aid in the construction of the ships.

It was the intention of Congress, as the undersigned suppose, to build steamships adapted to the coast defence, and especially the southern coast and ports. By the literal terms of the contract, the vessels were to be steamers of the first class, of not less than 1,500 tons—to conform in all respects to the model and dimensions of the late steamship "Missouri." The draught of water of the "Missouri," if required in the mail steamships, would have utterly defeated the intention of Congress. "A full and strict compliance" with the "stipulations of the contract," as to the manner of constructing the ships, would have shut out a material purpose for which, as a part of the national steam marine, the plan was intended. With the assent, therefore, of the government, the dimensions of the "Missouri" were departed from, under an indispensable necessity to adapt the ships to the intended object. But this change not only involved other changes, but greatly increased the cost of the ships. To gain the requisite lightness of draught of water to enter the port of New Orleans, and at the same time to build ships the most formidable for naval purposes, capable of carrying an armament, and to attain the highest speed known in ocean steamships, it became indispensable to increase their length and breadth and enlarge their engines and boilers. In this manner some four

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feet in the draught, and, by improvement in the model and the enlargement of the machinery, a speed of four miles per hour, were gained beyond that of the "Missouri." But this involved a departure from the "stipulations of the contract." To have adhered to the manner of the contract literally would have resulted in the sacrifice of a great and material object in the construction of the ships, both for defensive purposes and for letter-carrying, to say nothing of the purposes of trade and intercourse they were intended to promote. Had the ships been built strictly upon the model and dimensions of the "Missouri," not one of them could have entered the port of New Orleans loaded, nor could their speed have exceeded ten miles an hour. Not one of the ocean steamships capable of carrying a formidable armament, except the "Georgia" and the "Ohio," is suitable for the defence of the southern coast, owing to their draught of water.

In making these improvements, adapted to the purposes of government and of Congress, and to the nature of the service, and in subjecting themselves to the greatly increased expenditure, and the unavoidable delay in the completion of the ships, caused thereby, it was supposed by the undersigned that a public good was achieved. It was not imagined for a moment that, in securing higher qualities for the ships, in giving them a double capacity and value, and in rendering them in all respects more suitable for the service required, and worthier of the character and objects of the government, they were affording grounds for questioning their ability to carry forward the enterprise, for withholding payment of the service, or for placing their contract, the large amount they have expended on the ships, and their rights and interests, in any manner in jeopardy.

In making the important experiment of combining the naval and commercial service, it was considered as true economy, and a prudent regard to the public interests, to build two ships, and test their qualities, before proceeding to the construction of other vessels for the same object, and having like duties to perform. In this department of naval architecture, in this country, in the construction of ships of this magnitude, comparatively little was known. American engine-makers and ship-builders had not attempted the construction of such vessels. The experiment of obtaining a sufficiently light draught of water, combined with speed, by an increased breadth of beam, that would not cause the ship to be uneasy at sea, was untried. We were without a guide, and were obliged to proceed according to our best judgment, without experience, and without the aid of previously ascertained results. Two ships, under such circumstances, were considered sufficient for the experiment: two certainly would have been sufficient, had they proved failures.

In the construction of these vessels, no cost or pains have been spared. So far, they are altogether superior to any ocean steamships in the service of this or any other government in their adaptation to war purposes. The undersigned point, indeed, to the fruits of the system adopted by Congress, and as carried into effect by this and the other ocean steam lines, with the confident belief that they will be approved and sustained by the general voice of the American people, and by their representatives. Under this system steamships have been built, and others are now in progress, surpassing any hitherto constructed in this country, and superior, indeed, in size, model, and speed, and in adaptation to naval purposes, to the steam-

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ships of any nation in the world.* In the course of the present year, a steam marine of at least twenty large ships will traverse the waters of the Atlantic and Pacific oceans. They have led to great improvements, and to the acquisition of much valuable information in this branch of naval architecture. They have given an impetus to the practical labors of machinists, engine-makers, and ship-builders, in this country, which has served greatly to advance those arts, and improve and promote home skill and industry. They have tested the capacity and enterprise of our countrymen, and have combined with government encouragement, it is believed for the public good, the energies and means of American citizens; have enlarged the field of practical science, in its application to a steam marine; and have established our capacity to cope with the highest skill and lavish means of the most powerful nations of the Old World in all the elements of naval supremacy. They have materially aided in rendering the commerce of the world—at least the commerce of this continent—tributary to American ports, and to American capital and skill. Already they have taken the place of English steamships, which, until these efforts were put forth, engrossed the commerce by steam with European ports, with the distant parts of this continent, and the islands of the Pacific; and they will soon, if not interrupted by adverse legislative action, bear away the palm of naval superiority in steamships, in the Old World as in the New, as proudly as has been achieved by the American government in the construction of national ships of war. They have provided, and will provide, an effective steam marine for immediate use in conveying the mail, and ready, at any moment and at the smallest cost, to be converted to war or naval purposes, and especially for the defence of the southern coast, whenever the exigencies of the government shall call them into service. It is not necessary to add that these great and important results could not have been effected, or even attempted, without the liberal and undoubted aid and co-operation of Congress. They have been attempted and effected under the full expectation that, in good faith, and without regard to unavoidable deviations from the strict letter of the contract, not calculated to hinder but advance its general objects, such co-operation would be afforded and continued; and a very large outlay of money has been freely ventured upon such reliance.

The undersigned conceive, therefore, that, although the ships of this company have not been completed "in the manner and at the times stipulated in the contract," yet such deviation and consequent delay have not been "detrimental to the interests of the government and the requirements of the service," but advantageous to both. They beg leave to add, that, in relation to the several lines of steamships, a liberal policy has been pursued by the government and by Congress. The Bremen line, although authorized previous to the Liverpool, Chagres, and Pacific lines, has not yet completed its ships. The Liverpool line (Mr. Collins's) has been granted an extension of time for the completion of its ships, and its two now in service were not completed within an average of six months of the completion of the "Ohio" and "Georgia," and the mail service was not commenced by that line until a very recent period. The Pacific line did not enter upon the mail service as soon as it was commenced by the line belonging to the undersigned; and the contractors (Messrs. Aspinwall & Co.)

*For the qualities of the ships of this company, we refer to the reports of Captain Porter, United States Navy, (appendix C.)

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have been allowed to perform the service from San Francisco to Oregon in sailing vessels, and a part of the service between Panama and San Francisco in an inferior foreign ship. The delay in the completion of the ships of the United States Mail Steamship Company having been caused by their enlarged and improved manner of construction, it is confidently believed that equal indulgence will be extended to that line.

The fourth inquiry, "whether any of said ships have been increased in their tonnage, dimensions, machinery, and, consequently, in their value and effectiveness for naval and mail purposes, and the probable cost of those required by the terms of the contracts, and those actually constructed," is answered, in general terms, in the statement in reply to the preceding inquiries; but we add the following particulars: The contract required the construction of steamships of 1,500 tons, of the general dimensions of the late United States steamship Missouri, but with the extraordinary and wholly impracticable machinery of 1,000 horse-power. Those actually built are, respectively, of 2,434 tons and 2,727 tons—of much larger dimensions and more powerful machinery than the Missouri, being in length 267 and 270 feet, 46 and 49 feet breadth of beam, 29 feet deep, and engines of 700 horse-power. They cost an average of $460,000 each. The dimensions of ships of 1,500 tons would have been about 215 feet in length, 39 feet breadth, 21 feet deep, and their cost $325,000 each. The three ships now in the service of this company make an aggregate of 6,151 tons: with the two additional ships, if of equal tonnage, the aggregate would be 11,300 tons. Those of the five ships required by the contract would have been 6,600 tons.* Having by these modifications, and by the enlargement of the vessels, attained greater speed and far greater strength for bearing an armament, the undersigned cannot doubt that "the value and effectiveness of the ships for naval and mail purposes," are also much increased.

In reply to the fifth inquiry, "whether the mail service is now performed by said lines, respectively, according to their contracts, and what compensation has been paid therefor," we state that, by the provisions of the act of Congress and the contract, a portion of the service was required to be commenced on the 1st of October, 1848; but, owing to the lapse of time before the agreement between the undersigned and Mr. Sloo was consummated, and to the enlarged size of the ships, it became, as we have already stated, impossible, as was apparent to Congress and to all the parties, to finish either of the ships at the period named: and the "Falcon," a new steamship of 1,000 tons burden, with double engines, and admirably built throughout, was purchased by this company for temporary use in transporting the mails, and with the belief that a vessel so superior to a ship of the class of 600 tons, required by the contract, would be accepted by the government. With the assent of the Secretary of the Navy, and under a special agreement, the "Falcon" was so employed in the mail service, and has been continued in the regular performance of this duty to the present time. The period of commencing the service by any of the ships was material only in relation to the mails; and, by the employment of the "Falcon," this service was entered upon as soon as the corresponding service on the other side was begun by the Pacific line. The undersigned offered to enter upon it at an earlier day, and did enter upon it as soon as the govern-

*Vide appendix A.

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ment expressed a desire for its commencement. Accordingly, the first mail for California and Oregon was delivered by the "Falcon" at Chagres before the first mail ships in the Pacific had arrived at Panama.

In regard to the conveyance of the mails, this service was performed monthly, and we believe satisfactorily, from December 1, 1848, by the "Falcon" and "Isthmus" steamships, and after September, 1849, by the "Falcon" and "Ohio," and since the 1st of January last, twice a month, by the "Georgia," "Ohio," and "Falcon." Since the commencement of the running of the ships of the undersigned, under their contract, they had performed, on the 1st of June instant, 145,000 miles mail service; and the quality of the ships and the character of the machinery may be understood by the fact that this extensive service has been performed with great regularity in the arrival and departure of their ships—not one of them having been delayed in the least by any accident or defect in the machinery, and having been always ready to go out of port as soon as their coal and supplies could be taken on board. The mail service is now performed "in full and strict compliance with the law and the contract," and more frequently than the Pacific line of United States mail steamers can connect with this line at Panama.

Under a full and entire performance of the service for which the contract with the government guarantied a payment of $290,000 annually, the undersigned were required to convey the mail twice a month from New York, touching at Charleston and Savannah, when practicable, to Havana, and thence to Chagres and New Orleans, and back. The distance from New York to New Orleans, via Charleston, Savannah, and Havana, is 2,050 miles, and from Havana to Chagres 1,200 miles. The entire distance is 3,250 miles. The full semi-monthly service, therefore, included 13,000 miles per month. This service is now performed fully by the ships of this company, and has been so performed since the 1st of January last. On the 1st of June, 1850, their aggregate service had amounted, we repeat, to 141,830 miles; and on the 1st of July, 1850, will have amounted to 157,830 miles. On that day, therefore, their actual service will have exceeded one year's full mail service by 1,830 miles.

The undersigned have received no compensation for this service, unless the advance made towards the construction of the ships may be regarded as such, and allowed accordingly. But they conceive that they are entitled to receive, not payment for full service, but proportionate payment for the *period* the service has been performed, or for the *amount* of such service. By either mode of compensation the result would be nearly the same. We claim one year's full payment upon the following basis:

One year's full service would have required the transportation of the mails 156,000 miles. To the 1st of July, 1850, the undersigned will have conveyed the mails 157,830 miles, as will be seen by the annexed tables,* exceeding one year's full service about $35,000.

From the 1st December, 1848, to the 1st January, 1850, we had regularly performed the mail service *monthly*, being as often as the department required the service, and commencing before the monthly Pacific mail had

*Vide appendix B.

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commenced being run by the mail steamers. This, being half service for thirteen months, amounted to - - - - - $156,000
From 1st January to 1st July, 1850, six months, *twice a month*, or full service - - - - - - - 145,000

301,000

With regard to the concluding inquiry, "whether any further provisions of law are necessary to secure the more effectual performance of said service, and the other objects contemplated by said contracts," the undersigned further state, that, having completed, besides the "Falcon," their two large steamships, in the most approved manner, with the best skill of the country, it was considered desirable to test their qualities, and to ascertain whether, in the judgment of Congress and the government, any further improvements in their models, dimensions, or machinery, to adapt them to the defence or service of the southern coast, was necessary, and to obtain the consent of Congress to make such modifications before proceeding to build the remaining vessels required by the contract. With this view, although their own plans have been made, and contracts with builders entered into for the additional ships, they have been temporarily suspended; and it is now submitted whether such further alteration may be directed by Congress as will gain a still lighter draught of water, and thus enable the ships to enter other ports and harbors. This is believed to be a desirable, if not an indispensable, requisite. The ships already built are as good as any that can be constructed—suitable for war purposes and for great speed—for that object, and for conveying the mails, and enter the port of New Orleans. If it be desirable to extend the means of defence to other portions of the southern coast and seaboard, it will become necessary, in order to enable the contractors to meet any such requirement, to direct the requisite modifications in the contract. They therefore beg leave to suggest such further provisions of law as shall adapt the remaining ships, to be built under their contract, to the second class harbors on the coast and in the Gulf of Mexico; to allow the "Falcon" steamship, of 1,000 tons—which has already been inspected and approved by Commodore Perry—to be received in lieu of the ship of 600 tons provided in the contract; to extend the period for the completion of their two ships of 1,500 tons for sixteen and twenty-four months, respectively, from the passage of the act by the present Congress; and to direct the payment to this company of one year's full mail service.

The undersigned present these facts with entire reliance upon the justice and liberality of the committee and of Congress.

With high respect, your obedient servants,

GEORGE LAW,
MARSHALL O. ROBERTS.
EDWIN CROSWELL.

To the Hon. T. J. RUSK,
*Chairman, &c., United States Senate.*

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## APPENDIX A.

| | |
|---|---|
| The ships stipulated to be built by the United States Mail Steamship Company, under their contract with the government, were: | |
| Four ships of 1,500 tons each ..... tons..... | 6,000 |
| One ship of 600 tons ..... do..... | 600 |
| | 6,600 |
| They have built, and have in service— | |
| One ship of..... tons..... | 2,434 |
| One ship of..... do..... | 2,727 |
| One ship of..... do..... | 1,000 |
| | 6,150 |
| Being only 449 tons less than the entire tonnage required by their contract. Two additional ships of the size of the Ohio and Georgia would swell the aggregate to 11,800 tons. | |
| The proportionate cost of large ships is greater than the increased tonnage. Thus: the cost of ships under their contract would have been as follows: | |
| Four ships of 1,500 tons, at $225,000 each, would have cost..... | $900,000 |
| One ship of 600 tons..... | 100,000 |
| | 1,000,000 |
| The Ohio cost ..... | $419,250 |
| The Georgia cost ..... | 468,550 |
| The Falcon cost ..... | 175,000 |
| | 1,092,800 |
| And this without interest or commissions on the disbursements during the period of building, or commissions on building. | |

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## APPENDIX B.

*Dates of voyages and number of miles of mail service performed by the ships of the United States Mail Steamship Company.*

### FALCON.

| | | |
|---|---|---|
| From New York, via Charleston and Savannah, to Havana and New Orleans, December 5, 1848 | miles | 2,050 |
| New Orleans to Chagres | do. | 1,610 |
| Chagres to New Orleans, January 1, 1849 | do. | 1,610 |
| New Orleans to New York | do. | 2,050 |
| New York to Havana and Chagres, February 4, 1849 | do. | 2,600 |
| Chagres to Havana and New York, February 17, 1849 | do. | 2,600 |
| New York to Havana and New Orleans, March 11, 1849 | do. | 2,050 |
| New Orleans to Chagres, March 21, 1849 | do. | 1,610 |
| Chagres to New York, April 1, 1849 | do. | 2,600 |
| New York to Chagres, April 19, 1849 | do. | 2,600 |
| Chagres to New York, May 4, 1849 | do. | 2,600 |
| New York to Havana and New Orleans, May 26, 1849 | do. | 2,050 |
| New Orleans to New York, June 11, 1849 | do. | 2,050 |
| New York to Havana and New Orleans, June 28, 1849 | do. | 2,050 |
| New Orleans to Chagres, July 13, 1489 | do. | 1,610 |
| Chagres to New Orleans, July 28, 1849 | do. | 1,610 |
| New Orleans to Havana and New York, August 9, 1849 | do. | 2,050 |
| New York to Havana and New Orleans, August 27, 1849 | do. | 2,050 |
| New Orleans to Chagres, September 12, 1849 | do. | 1,610 |
| Chagres to New Orleans, September 27, 1849 | do. | 1,610 |
| New Orleans to Chagres, October 6, 1849 | do. | 1,610 |
| Chagres to Havana, October 13, 1849 | do. | 1,200 |
| Havana to Chagres, October 24, 1849 | do. | 1,200 |
| Chagres to New Orleans, October 30, 1849 | do. | 1,610 |
| New Orleans to Havana, November 13, 1849 | do. | 700 |
| Havana to Chagres, November 20, 1849 | do. | 1,200 |
| Chagres to Havana, November 28, 1849 | do. | 1,200 |
| Havana to New Orleans, December 4, 1849 | do. | 700 |
| New Orleans to Havana, December 15, 1849 | do. | 700 |
| Havana to Chagres, December 21, 1849 | do. | 1,200 |
| Chagres to New Orleans, January 1, 1850 | do. | 1,610 |
| New Orleans to Havana, January 12, 1850 | do. | 700 |
| Havana to Chagres, January 20, 1850 | do. | 1,200 |
| Chagres to Havana, January 27, 1850 | do. | 1,200 |
| Havana to New Orleans, February 3, 1850 | do. | 700 |
| New Orleans to New York, via Havana, February 11, 1850 | do. | 2,050 |
| New York to New Orleans, via Havana, February 28, 1850 | do. | 2,050 |
| New Orleans to Havana, March 15, 1850 | do. | 700 |
| Havana to New Orleans, March 21, 1850 | do. | 700 |
| New Orleans to Havana, March 30, 1850 | do. | 700 |
| Havana to Chagres, April 5, 1850 | do. | 1,200 |
| Chagres to Havana, April 13, 1850 | do. | 1,200 |
| Havana to New Orleans, April 20, 1850 | do. | 700 |
| New Orleans to Havana, April 30, 1850 | do. | 700 |
| Havana to Chagres, May 6, 1850 | do. | 1,200 |
| Chagres to Havana, May 13, 1850 | do. | 1,200 |
| Havana to New Orleans, May 20, 1850 | do. | 700 |
| | | 70,500 |

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## APPENDIX B—Continued.

### ISTHMUS.

| | | |
|---|---|---|
| From New York to Chagres, via Charleston, Havana, &c., December 26, 1848 | miles | 2,600 |
| Chagres to New Orleans, via Havana, January 23, 1849 | do | 1,900 |
| New Orleans to Chagres, February 19, 1849 | do | 1,610 |
| Chagres to Havana and New Orleans, March 3, 1849 | do | 1,900 |
| New Orleans to Havana, April 2, 1849 | do | 700 |
| Havana to New Orleans, April 11, 1849 | do | 700 |
| New Orleans to Havana, April 22, 1849 | do | 700 |
| Havana to New Orleans, April 27, 1849 | do | 700 |
| New Orleans to Havana, May 6, 1849 | do | 700 |
| Havana to New Orleans, May 12, 1849 | do | 700 |
| New Orleans to Havana, May 29, 1849 | do | 700 |
| Havana to Chagres, June 1, 1849 | do | 1,200 |
| Chagres to Havana and New Orleans, June 18, 1849 | do | 1,900 |
| New Orleans to Havana and New York, July 8, 1849 | do | 2,050 |
| | | 18,060 |

### OHIO.

| | | |
|---|---|---|
| From New York, via Charleston and Havana, to New Orleans, September 20, 1849 | miles | 2,050 |
| New Orleans to Havana and New York, October 4, 1849 | do | 2,050 |
| New York to New Orleans, October 18, 1849 | do | 2,050 |
| New Orleans to New York, October 31, 1849 | do | 2,050 |
| New York to New Orleans, November 13, 1849 | do | 2,050 |
| New Orleans to New York, November 30, 1849 | do | 2,050 |
| New York to New Orleans, December 13, 1849 | do | 2,050 |
| New Orleans to New York, December 30, 1849 | do | 2,050 |
| New York to New Orleans, January 12, 1850 | do | 2,050 |
| New Orleans to New York, January 30, 1850 | do | 2,050 |
| New York to New Orleans, February 13, 1850 | do | 2,050 |
| New Orleans to Chagres, February 28, 1850 | do | 1,610 |
| Chagres, via Havana, to New York, March 13, 1850 | do | 2,600 |
| New York to Havana and New Orleans, March 28, 1850 | do | 2,050 |
| New Orleans to New York, April 15, 1850 | do | 2,050 |
| New York to New Orleans, April 27, 1850 | do | 2,050 |
| New Orleans to New York, May 15, 1850 | do | 2,050 |
| New York to New Orleans, May 28, 1850 | do | 2,050 |
| | | 37,010 |

### GEORGIA.

| | | |
|---|---|---|
| From New York, via Charleston, &c., to Havana and New Orleans, January 28, 1850 | miles | 2,050 |
| New Orleans to Chagres, February 12, 1850 | do | 1,610 |
| Chagres to Havana and New York, February 27, 1850 | do | 2,600 |
| New York to Havana and Chagres, March 13, 1850 | do | 2,600 |
| Chagres to Havana and New York, March 28, 1850 | do | 2,600 |
| New York to Havana and Chagres, April 13, 1850 | do | 2,600 |
| Chagres to Havana and New York, April 27, 1850 | do | 2,600 |
| New York to Havana and Chagres, May 13, 1850 | do | 2,600 |
| | | 19,260 |

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## APPENDIX B—Continued.

RECAPITULATION.

| | | |
|---|---|---|
| By Falcon steamship | miles | 70,500 |
| By Isthmus steamship | do | 18,060 |
| By Ohio steamship | do | 57,010 |
| By Georgia steamship | do | 19,260 |
| | | 144,830 |

## APPENDIX C.

U. S. MAIL STEAMSHIP "GEORGIA,"
*New York, March* 9, 1850.

SIR: Agreeably to your instructions, I lay before you a report of the performance of this ship since the time I have been in command of her.

I sailed from New York on the 28th of January last, on her first voyage, with seven hundred tons of coal on board, two hundred tons of freight, and one hundred and eighty passengers, with an extra quantity of baggage. The ship's trim was sixteen feet forward and fifteen feet aft, that being considered her best trim for sailing by the constructor. We cleared the bar of New York with the wind and a heavy sea from the southward, which chopped round to northwest in the course of a few hours, and ended in a gale, (not heavy.) I found the ship easy, though steering badly, owing to her being so much by the head. I immediately commenced trimming her by the stern, using coal from forward, and found she felt it at once. We made our run from New York to Charleston bar in fifty hours. Had it not been for the bad steering of the ship, we would have run the distance in forty-six hours. The first twenty hours she averaged twelve knots an hour, and, until we reached Charleston, thirteen knots an hour. At Charleston laid her to under main and mizen try-sails, to save coal—laid to very well, coming up and falling off a point only. From Charleston to Savannah we were four hours and thirty-five minutes—whole distance run, seventy-three miles—nearly fifteen knots an hour. From Savannah to Havana we were sixty hours, against fresh breezes and gulf-stream. Whole running time from New York to Havana five days and twelve hours, including seventeen hours detention at Savannah and Charleston. This is the quickest running time on record by two days.

From Havana we proceeded to New Orleans. The first four hours out, the sea for the first time was perfectly smooth, and she ran fifteen miles an hour with fifteen pounds of steam on. Then we encountered a fresh norther, with a heavy sea. She made twelve knots an hour through it all, excepting for two hours, when I ordered the steam slacked up, as the sea was too heavy to force her. She made, however, twenty-four miles in three hours. As soon as the sea moderated, I ordered the steam to be put on, not above fifteen pounds, and she ran the remainder of the distance, (one hundred and seventy-five miles,) against the stream, in twelve hours and a half, reaching the bar at the Balize in fifty-six hours from her anchorage at Havana. Though the gale was not a heavy one, it was sufficiently so to

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test the ship. Nothing could be more beautiful than her performance—she being perfectly easy, and not feeling the shock of the head-seas at all, her engine working as smoothly as if it was in smooth water. Her run from the bar up to New Orleans was a remarkable one, being performed in eight hours and a half, against a very strong current—the distance one hundred and ten miles.

She burnt on her trip to New Orleans 449 tons of anthracite coal. Running time, six days and twenty-three hours; distance, two thousand and ten miles.

At New Orleans I took in six hundred and fifty tons of bituminous coal, bricked up the furnace so as to cut off the fire surface, and proceeded to Chagres, with four hundred and thirty passengers, ship drawing fifteen feet nine inches forward and fourteen feet four inches aft. Passed the bar at dead low water without any difficulty, wind blowing from the NW. at the time, and increasing gradually to a heavy gale, running under five pounds of steam. The ship, being by the head, steered badly, and had a tendency to broach to as the sea increased. I put all the head sail she would carry on her, but it would not counteract the effects of wheel-houses and the after masts, and, as I was in no hurry, I thought it prudent to run no risks. I hove her to under steam alone, making about four turns a minute, and going to windward three miles an hour. She remained hove to for fourteen hours, and I cannot speak in too high terms of her behaviour—being perfectly easy, giving evidence of great strength, and not taking on board a drop of water; engines working very smooth. When the gale moderated, I bore up on my course, and arrived at Chagres in six days and eight hours, carrying only five pounds of steam: consumed 275 tons of bituminous coal—distance 1,610 miles.

While at Chagres I had occasion to go to Porto Bello for water, and returning used only the two fore boilers to save coal. With the two boilers she ran from Porto Bello to Chagres in two hours and ten minutes—distance by patent log 28¾ miles, 29½ by the chart; consumed five tons of coal, including getting up steam, and averaged one ton and a quarter per hour while under way; amount of steam carried, ten pounds.

We left Chagres on the 26th for Havana, and made the run from anchorage to anchorage in three days and fourteen hours: distance run, 1,120 miles, 60 miles current against us; ship light, and carrying fifteen pounds of steam. The first two days I carried twelve pounds of steam, and only until sure I had plenty of coal, ordered her to be put to her speed. At times she ran sixteen knots an hour, and averaged fourteen knots up to Havana. The last day's run we had a heavy sea on the quarter, and, being light, the ship rolled considerably, but steered remarkably well, which proves she only wanted to be on an even keel to make her steer.

At Havana we stopped thirty-six hours, and took on board 369 tons of coal, part anthracite and part bad Scotch coal, half clinker. We cleared the harbor at six o'clock precisely on the evening of the 4th, with a fresh breeze ahead; fifteen pounds of steam on, and making twelve knots an hour. I trimmed the ship four inches by the stern, and all difficulty about steering was at an end. She steered for hours without scarcely moving the wheel. On the second day out, the wind hauled round to SE., freshening up, and gradually increasing to a very heavy gale, with an ugly sea on; ship scudding under fore-sail, and steering well. Proper attention not being paid to my orders about using coal from forward, she gradually got by the head,

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and did not steer so well, proving her trim to be by the stern. She made most rapid headway with wind and steam, it blowing so hard at the time that it was with difficulty we could get our fore-sail in and furl it. Fifty-two hours from Havana the wind shifted to the windward, still blowing heavy. All this time the ship was so easy that not a thing in her moved from its place, and below the motion was scarcely perceptible—the engine making sixteen revolutions, and the ship making fourteen miles and over through the water. At daylight we found our patent log gone, on which we depended to know our distance run, but we calculated we were up with Hatteras, sixty hours after leaving Havana. On getting an observation, found we had run by the cape thirty miles, making the distance run from Havana one thousand and fifty miles, in sixty hours—no doubt the greatest distance ever yet performed by a ship. Hauled up for New York against a *heavy* NW. gale, making ten knots an hour, and arrived at the dock in New York in four days and three hours, including an hour's detention at the quarantine.

The shortness of my stay will prevent my going more into particulars, and on my return to this place I will enclose you a copy of our journal.

Very respectfully, your obedient servant,

D. D. PORTER,
*Lieutenant United States Navy.*

Commodore M. C. PERRY,
*United States Navy, New York.*

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UNITED STATES MAIL STEAMSHIP "GEORGIA,"
*New York, April* 8, 1850.

SIR: Since my last report, I have made another trip to Chagres, encountering such heavy weather as will establish the character of this as the best of sea-boats.

We sailed from New York on the 13th of March, with 700 passengers, meeting very heavy weather the moment we cleared the harbor. The ship, being trimmed four inches by the stern, behaved most beautifully, steering to my entire satisfaction. We made our run to Havana in a little over six days, including our stoppages at Charleston and Savannah, with ten pounds of steam. At Havana we took in 450 passengers from the "Falcon," making with the crew over 1,200 persons, and carried them to Chagres in four days, without any great inconvenience, and the ship scarcely felt the load. It was a good test of her capacity to carry troops; and if she were differently fitted, she could carry on board 1,800 men, without any difficulty. Her engines go on improving every trip, and I hope on my return to lay before you the engineer's log, which is being copied for that purpose.

On my return from Havana, I trimmed the ship eight inches by the stern, and did not use the coal from the side bunkers until the last. This remedied all defects, if there were any. She was easy, steered beautifully, and made her best speed, having run from her anchorage to the bar in three days and twenty-two hours, an average of 340 miles a day: two days of this was heavy weather, and one of the days it blew heavy from the NE., knocking up a very heavy sea in the gulf, and yet she made 265 miles, or an average of 11 knots an hour, without shipping a sea, which I think it impossible for her to do if she is in trim.

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If the time should ever come when it will be found necessary to put a battery on her, it will make her a still better ship, as it is a difficult matter to get her deep enough in the water; and I venture to say that no model ever built will prove her superior in any one respect.

Very respectfully, your obedient servant,

D. D. PORTER,
*Lieutenant United States Navy.*

Commodore M. C. PERRY,
*United States Navy, New York.*

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UNITED STATES MAIL STEAMSHIP "GEORGIA,"
*New York, May* 12, 1850.

SIR: The steamship "Georgia" has again arrived in port, after making the most successful run ever yet made from Chagres to New York—seven days and eight hours running time; weather adverse.

The qualities of this ship have so far been tested to my satisfaction that it leaves me but little to say about her, except to repeat what I have already said in my former reports. She has returned to her dock without wanting any repairs in hull or machinery, though she has gone through some heavy weather, and thus far I am satisfied that every part of the ship has received that attention in the construction which was desired by the government. I am getting her in a little better order than when she first started, and hope in two or three trips more to have her in good condition. Thus far, we have been rather hard pushed for time, and have carried a large number of passengers, which have prevented me from doing many things to the ship which she requires.

I see by the papers that the "Niagara" sailed from England the same day we sailed from Chagres, and arrived in Halifax the same day we arrived here. The distance is about the same; our navigation the most difficult. Her running time was nine days and some hours, with, I believe, favorable weather; while we have to deduct fifty-nine hours we lay at Havana, which would give us a gain of 732 miles over her in nine days. I state this circumstance to enable you to make a comparison between the respective speed of the "Georgia" and the "Niagara," the best and fastest British steamer afloat. I have never, under any circumstances, (except once, for a few hours,) pressed this ship; because, in the first place, the facilities for getting coal on our route (which is very much lengthened by stopping at Charleston and Savannah) will not permit, and because I endeavor to keep up a uniform rate of speed. How far the ship can be depended on, can be seen from an inspection of her three trips. She has always arrived in Havana, going to and coming from Chagres, at the same hour. Her first trip from Havana to New York was three days and twenty-three hours and a half. Second trip, three days and twenty-two hours. The third trip, three days and twenty hours. Every trip she has met with heavy weather, and adverse to steaming. Our trip out from New York is not so well to be depended on, as we are much delayed and embarrassed by stopping at Charleston and Savannah, with the loss of much time, and attended with risk to the ship. If the government feel any interest in these ships, I do not suppose they would desire them to run any unnecessary risks; and Savannah and Charleston are so near to each other, that it seems

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to be a useless waste of time to stop at both places; in bad weather it is utterly impossible for us to communicate with either. I have already run the ship on something I supposed to be a shoal, and marked the position most accurately, and took soundings at the moment we struck in seventeen feet water. The chart gave at that spot ten fathoms. The superintendent of the coast survey immediately ordered an examination made by Lieutenant Maffit, of the navy, who, after a careful search, could find nothing like a shoal, and supposes that I ran foul of some heavy drift wood that came out of the river. I am confident, notwithstanding, that we either struck a sunken wreck or a shoal, and in conversing with the pilots they tell me that shoals are thrown up between Charleston and Savannah after heavy gales: but their information only extends to the harbors on the coast, and they know little or nothing about it.

Very respectfully, your obedient servant,

D. D. PORTER,
*Lieutenant United States Navy.*

Commodore M. C. PERRY,
*United States Navy, New York.*

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AUGUST 5, 1850.

SIR: In conformity with your note, I have the honor to submit the following statement concerning the contract for transporting the mail by steam between New York, New Orleans, and Chagres, made by the government with me.

In the beginning of 1846, the Postmaster General, in pursuance of law, advertised for proposals for the transportation of the United States mail in steamers on several ocean routes, and amongst them, that for which the contract I now have with the government. Various offers were made—one from New York to Bremen, one from New York to Liverpool, and one from New York to New Orleans and Chagres. The Postmaster General accepted the proposals for the Bremen route, made by Mr. Mills, but declined acting on the other two, and referred them to Congress. On the next session thereafter, Congress passed an act directing the Secretary of the Navy to contract with Mr. Collins, who had made the lowest offer for the New York and Liverpool route, and with myself as the lowest bidder for the New York, New Orleans, and Chagres routes, specifying the terms, which were somewhat modified from the original bid. In accordance with this law the contracts were made. By the contract with me, I was required to build and equip four ocean steamers, of not less than 1,500 tons burden each, to run between New York and New Orleans, via Havana, Savannah, and, if practicable, Charleston; and one steamer, of not less than 600 tons, between Havana and Chagres. The mail deliveries were to be made at each end of said routes twice a month. The steamers were to be of the first quality—the four large ones equal to the United States steamer "Missouri"—and they were all to be adapted to naval service, to be fitted for powerful armament, to be officered by five naval officers—one lieutenant and four midshipmen—each, who, together with a government mail agent, were to be kept on board without charge to the government. For this service, the mail pay was fixed at $290,000 per annum, and, in case of war, government had the privilege of taking the vessels at their value.

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The compensation fixed for this service in the contract is the lowest, in proportion to the distance and quality of vessels, that has ever been made in Europe or America, and it was made before gold was discovered in California, and but for that would thus far have been unprofitable. And the navigation of this route is the most dangerous to life and property, particularly around the peninsula of Florida, of any ocean route whatever. Large numbers of men and vast amounts of property are annually lost on that coast; yet the great and important intercourse between New York and New Orleans demanded, and I thought would justify, an ocean steam line of the first order. My attention was directed to this route whilst the contractor for several years in transporting the mail by steamers from New Orleans to Mobile. That route had been very irregular and ruinous to previous contractors; but I had succeeded in imparting to it great speed, punctuality, and success. Before making my original bid to the Postmaster General for the present route, I had an understanding with parties who constructed my boats for the New Orleans and Mobile route that they would join me in a contract for this one. But when I obtained it, such was considered the magnitude of the undertaking, that they deemed the mail pay inadequate, and declined the arrangement. Such also was the opinion generally of other men of experience in such affairs, and of capitalists; and the parties with whom I am associated were the only men with whom a practicable arrangement could be made. It was with me a great desideratum to secure the co-operation of one of them, Mr. George Law, with whose responsibility, capacity, and skill for steamboat building I was familiar. And with him, and the three other gentlemen named in my contract with them, the agreement was made to build the vessels in conformity with my engagements to the government.

When the original proposal was made to the Postmaster General, the vessels of Mr. Cunard's line, then the most successful of all ocean steamers, did not average a burden of fifteen hundred tons each, although larger than had before been deemed expedient for such navigation. Before the construction of the vessels under my contract commenced, a new and larger class of about 2,000 tons burden was superadded to Mr. Cunard's line, for the purpose of attaining greater speed and efficiency for commercial and naval service. And it was to have been expected, as the fact afterwards was, that the same policy would be adopted in the British West India and Panama line; and, as this line was to be the competitor in peace and the antagonist in war of the New York, New Orleans, and Chagres line, it became important to augment the size of our vessels accordingly. With that view, and to meet all the contingencies of future competition, the keels of the two first vessels of our line, the "Ohio" and "Georgia," were laid of a tonnage 2,432 and 2,727, respectively; but as the size was thus augmented so much beyond what was required by my contract with the government, and with the gentlemen who undertook to build them, and involved a correspondent augmentation of cost, they applied to Congress for an advance of one year's mail pay on these two vessels, then on the stocks, whose size was communicated to Congress, and that body ratified this great enlargement of dimension by a law making the advance for the construction of these vessels by name. This increase of size involved an extension of time allowed by the contract; and for the law passed August 3, late in the long session of 1848, for the advances to commence, and they were to continue monthly for a year—so that by this law it is clear that

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Congress did not contemplate their completion until late in 1849, although by the contract one of the vessels was to be ready in October, 1848. In conformity with the intent of the law of 1848, the "Ohio" was ready for sea and commenced running on the 20th of September, 1849, and the "Georgia" on the first of January following. By an arrangement with the Navy Department, we had commenced the service with the "Falcon" on the first of December, 1848; and the "Falcon," which was furnished chiefly for the Havana and Chagres part of the line, is a double-engine ocean steamer of 1,000 tons, much superior in power, capacity, efficiency, and cost, to the vessel required, which was 600 tons.

We had thus in actual service by the end of the year 1849 three vessels, whose aggregate tonnage was 6,159, whilst the total tonnage required by the contract was only 6,600.

We had not, it is true, commenced the other two vessels, so as to have them ready at the same time, or the precise time required in the contract, because we considered the act of Congress, making the advance in the manner prescribed, was a virtual extension of the time originally allowed, in consideration of the vast augmentation of tonnage and efficiency of which the government would have command from the increase of size, and without any increase of compensation; for we did not expect to receive mail pay, except in proportion to the mail service performed under the contract. Besides, it is well known that all the ocean steamships already built were in a great measure experimental. All of them depart widely from all previous vessels, and none more so than the "Ohio" and "Georgia." It was reasonable, and clearly as much for the interest of government as our own, that these new models should be tried before other vessels were built, in order that all the benefits of the experiment could be realized. Besides, it was impracticable to carry on at once so vast an amount of such work. There were but a very few establishments in this country capable of executing it at all, and they were fully employed with these vessels and those of other contracts. The engines are so much larger than our shops had been called on to fabricate, that the very tools had, in many cases, to be made first; and the amount of timber required was so large that time was indispensable to procure and prepare it.

But of all the undertakings of this kind, this one is the least liable to censure for delay, or to complaint from the government. The contract for the Bremen line, as it is called, was made early in 1846. It required the building of four ocean steamers in two years. More than four years have elapsed, and two only are built, and both of them of inferior quality, and so slow that they are beaten by all their rivals, and hence carry but few letters: and the post-office is thereby deprived of that revenue from postage which was relied on when the policy of ocean steam mails was adopted to defray a large part of the mail pay. Yet government has indulged that line to this day, and paid regularly its mail pay. The Panama and Oregon line was to consist of three steamers: two of 1,000 tons each, and one of 600 tons; and to sail from New York on the first of October, 1848. The smallest one only was enlarged from 600 to 1,000 tons. They sailed on the 6th October and 8th December, 1848, and 17th February, 1849, respectively. But their total tonnage but little exceeds that of the "Georgia," and they all have but one engine each. They have had their full pay allowed them from the start, although they have been permitted to stop at San Francisco, instead of Astoria, without rendering equivalent ser-

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vice. And there is Mr. Collins's line to Liverpool, four vessels of which were to be completed on the 18th of April, 1849, and only two of which are, as yet, done, and they so recently as to have performed but two trips each. On Mr. Collins's application, Congress readily granted him a year or two beyond the contract.

But more than all this. In the very law which authorized these mail contracts, provision was made for the construction of four war steamers by the Navy Department. That establishment has six navy-yards at its command for the construction of vessels, with an abundant supply of timber and all other materials, and ample funds in the treasury. The four war steamers were commenced—none of them as large as the "Ohio" and "Georgia"—yet now, after the lapse of two or three years, but one has been completed, the "Saranac;" yet the late Secretary of the Navy, who could accomplish nothing more than this, although sixteen months in office, complained of us for unreasonable delay and inefficiency, and attempted to obtain from Congress authority to annul this contract. If we compare the performances of the vessels built under the present laws, there will be still less reason to complain of this line. Those of the Bremen line may be considered failures. They are uniformly several days behind the time of the Cunard steamers, and hence get but few letters, and return in postage to the department but little of the money they receive for mail pay. The Panama and Oregon steamers are vessels of good ordinary speed for their class. The line of Mr. Collins, the Liverpool line, is fast. The vessels are fine. They have performed two or three quick trips across the Atlantic—one of the very quickest on record. But according to the log, the greatest distance ever made in any day was three hundred and fifteen miles. The "Georgia" has run four hundred miles in a day. Her *average* run per day for a whole recent voyage was three hundred and thirty-six miles. All the other lines have experienced accidents, as they are called—that is, have broken their machinery and suffered delay. The "Atlantic" and "Pacific" have broken—one her paddles, the other her pump. One of the Panama vessels broke her beam. The "Saranac," the new navy steamer, was sent with government despatches in hot haste to Cuba, and broke her rocker-shaft and put into Norfolk, where she has remained two months, and still remains, repairing. So of the steamers running in opposition to this line between New York and Chagres: the "Crescent City" broke her engine and abandoned a voyage; the "Cherokee" was once thrown on her beam-ends, and was righted only by cutting away her masts; and she returned from another voyage with several feet water in her hold, and was detained in port beyond her time. But neither the "Falcon," "Ohio," nor "Georgia" has ever experienced an accident since their service in this line began. They have been more continually in motion within that time than perhaps any ocean steamers ever were before. They have performed that service with more regularity, punctuality and speed, than any other mail service on the sea ever known. And they have at the same time afforded accommodations for passengers and freight to a greater extent, in a style of more comfort and safety, and at less expense, than ever was expected or imagined—far more than ever was equalled. The world never witnessed such a phenomenon as the rapid colonization of California; and the facilities for this emigration have been afforded to a greater extent by this line than by any other agency whatever.

Nor does the government receive from any other line as large a reimbursement of the mail pay in postage as from this. The only one that

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approaches it is the Pacific line. But this line carries as many letters as that, and all the important correspondence between Cuba and this country besides. We have asked, but have not obtained, from the post office a statement of the letters transported by our line. In one instance, which we happened to observe, 27,000 were taken from New York for San Francisco; a large number goes from New Orleans, and the returns correspond. The receipts must already nearly equal the mail pay, and must, during the term of the contract, exceed it. Thus the government, in this case, secures, without cost, and, perhaps, even with profit, a line of steamers of the first efficiency in war, and also, in time of peace, maintains one of the largest mail lines in the world, delivering letters with a regularity, rapidity, and cheapness which have no parallel; for the postage of letters now between the Atlantic and Pacific, at forty cents, is cheaper, distance considered, than the penny-postage system of England. To keep a seventy-four, or one such steamer as ours, in commission, the government would have to pay $400,000 annually. As to the capability of the steamers of this line for naval service, in case of war, they are superior, I maintain, to all others. The speed of the "Georgia" has already been proved greater than that of any other steamer—that of the "Ohio" is nearly as great; and that single quality would enable them to overtake an enemy when others would fail, or to decline a combat with overwhelming force, which could not be done without superior speed. As to their strength, it has been completely tested in the storms that rage along the south Atlantic coast, which they have repeatedly encountered, with and without heavy cargo, and in no instance has injury been sustained. The frame and timbers must be of the utmost strength and inflexibility, or the engines would have been distorted and disordered. The timber must have been of the best quality and properly seasoned, as a defect in those respects would have resulted, before this time, in leaking or breaking. These vessels (the "Ohio" and "Georgia") are constructed to carry armaments of the heaviest guns, enough to encounter any other vessels; and, in cutting up the commerce of an enemy, their efficiency could not be surpassed, as there is no British mail steamer their equal in size and speed. The "Ohio" has not yet been coppered, having been waiting for several months the completion of the government dry-dock at the Brooklyn navy-yard, there being no other dock capacious enough to receive her; but as she is running between fresh and salt water—from New York to New Orleans—the worms which attack in the one perish in the other.

As for the other two ships to be built under the contract, they have not yet been commenced, but we have long been in readiness to begin them. The Secretary of the Navy then in office was informed of this fact last winter, and requested to indicate the size of the vessels he preferred—whether such as the contract stipulated, or such as the "Ohio" and "Georgia," which Congress sanctioned; but he refused to say, and replied that he would refer the whole subject to Congress.

A difficulty existed at one time between the gentlemen who contracted to build the vessels and myself, which threatened to interrupt the execution of the contract. It arose chiefly from a difference of opinion as to the mode of registering the "Ohio," and resulted in a chancery suit in the United States district court in the city of New York; but that was soon after compromised, and did not interfere with the construction of the vessels. In that suit I submitted to the court the point whether the contract was not violated by the delay beyond the time originally fixed for the construction

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of the vessels; and Judge Nelson held that the subsequent law of Congress in reference to the "Ohio" and "Georgia," operated as a waiver of the time first agreed on, in consideration of their increased size. The undersigned trusts, therefore, that, as under this contract greater promptitude and diligence have been displayed in building the vessels than in any other contract, or by the Navy Department—that, as the vessels built are a greater improvement on the size prescribed than has been made in any other case—that as they have attained the highest speed, the greatest regularity, and the greatest security yet known to ocean steam navigation—that, as in peace they perform a mail service of vast importance with complete success, and are ever in readiness, in case of war, for naval service, with scarcely any cost to the government in the interval—that, in consideration of all these results, this contract will be regarded at least with as much favor as the others, which have all received more and performed less.

I am, very respectfully, your obedient servant,

A. G. SLOO.

Hon. THOS. J. RUSK,
*Chairman of Senate Committee on the Post Office and Post Roads.*

P. S.—I beg leave to subjoin the reports of Commodore Perry, J. McKeever, and S. Hart, and Lieutenant Porter, on the structure and speed of the "Ohio" and "Georgia."

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UNITED STATES MAIL STEAMSHIP "OHIO,"
*New York, August* 24, 1850.

SIR: In reply to your inquiries, I have the honor to state, that, having been in command of the United States mail steamship "Ohio" since the 20th of September, 1849, I am enabled to speak of her qualities from nearly a year's experience and careful observation.

When the "Ohio" and "Georgia commenced running, they were the two largest steamships afloat. In model, as well as size, they were believed to excel the steamships of this or any other nation. As a test of ability to combine the elements of a commercial and naval steam marine for mail and commercial purposes with an adaptation to effective war service, in accordance with the act of Congress, the experiment has proved entirely successful.

The "Ohio" has been running regularly between New York and New Orleans, via Havana, and touching off Charleston and Savannah, for nearly a year, in connexion with the "Falcon" between Havana and Chagres. She leaves New York on Monday on her twelfth monthly voyage. She has made her passages with great regularity, arriving and departing with precision. The character of her machinery, the general strength of the ship, her capacity, and the certainty with which she performs, may be judged of by the fact that, from the moment she commenced running, she has not lost a day, has never been stopped to adjust or repair her machinery; has passed the last winter, in which she has encountered several severe storms and hurricanes with great steadiness, without the loss of a spar, and without detention or injury of any sort. She is equal to an average speed of fourteen miles per hour, and can exceed this when required; and, when she is coppered, as she will be as soon as the government dock, for which she has

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been waiting since she began running, shall have received the new pumps, now nearly completed, the speed of the ship will be still greater.

Having encountered every variety of weather, and after an experience of twenty-five years at sea, I am satisfied the "Ohio" possesses all the qualities necessary to constitute a ship of the first order. In the many gales I have encountered, she has displayed every quality most desirable in a ship: she lies to admirably, scuds beautifully, and labors but little in a sea-way. Her great strength and perfect machinery always give an assurance of safety. No accident has occurred on board the "Ohio," during the eleven months she has been running, calculated in the slightest degree to impair either her hull or machinery; and I feel no hesitation in saying—and challenge the investigation of persons capable of judging—that she has suffered less in wear and tear than any other ship now afloat that has been subjected to similar exposure. To sum up all, her machinery has never been stopped at sea, and, notwithstanding a caulking-iron has never been driven into her since she commenced running, she does not leak a drop; and, with the knowledge I possess of her admirable qualities, I unhesitatingly assert that, in the event of her being converted into a man-of-war, I would rather serve on board of her than any other vessel now afloat, either in or out of the naval service.

For the commercial service, no ships can be better adapted than the "Ohio" and "Georgia" in size, speed, ample accommodations, easy running, and powerful and well-constructed machinery. For naval or war purposes, these ships are equally well adapted. Their great breadth of beam and strength of hull will enable them to carry an armament of the heaviest calibre; and the machinery of each, being below the gun deck, is less exposed to shot, and gives them a flush deck, which is essential to the effective working of their guns. The gun-deck is built of great strength, with waterways and stanchions. Upon this gun-deck is now erected a light deck or cabin, to afford accommodations for passengers, put up with the express view of being easily and rapidly removed whenever the ship may be required for war purposes. This could be done in ten days, and the armament placed on board for service, provided the guns were in readiness.

It will be observed that the official or custom-house measurement of the "Ohio" is 2,434 tons. This is exclusive of the upper or light deck, and this would be her actual tonnage if that deck were removed. If it were included, her burden, by carpenter's measurement, (Haswell's rule,) would be 3,371 tons. In the same manner, the "Georgia" is 2,727 tons custom-house measurement, starting from the main or gun-deck. Including her upper deck, it would be, by carpenter's measurement, 3,651 tons.

I am, sir, with high respect, your most obedient servant,

JAS. FINDLAY SCHENCK,

*Lieutenant U. S. Navy, commanding steamship "Ohio."*

Hon. T. J. Rusk,

*Chairman Senate Committee on the Post Office and Post Roads.*

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New York, *August* 31, 1849.

Sir: In obedience to your instructions of the 21st instant, we have inspected "the new steamship 'Ohio,' recently built under the contract with

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A. G. Sloo, authorized by the act of Congress of 3d of March, 1847, for the mail service therein contemplated, and have the honor to report that, in our judgment, she has been built in conformity with the requirements of the act of Congress above referred to, and, though not in accordance with every particular stipulation of the contract, as has already been made known to the department by the superintending officers, she is constructed of suitable dimensions, build, and finish, to conform with the contract for carrying the mails on her destined route, and, with the preparations and additions of suitable war appointments, she could be easily converted into a war steamer of the first class.

There is no reason to suppose that she will not be coppered and in readiness for sea by the 1st of October next, and she is now in a state of forwardness to receive her officers.

Respectfully submitted, by your obedient servants,

M. C. PERRY.
J. McKEEVER.
S. HART,
*Naval Constructor.*

Hon. WM. BALLARD PRESTON,
*Secretary of the Navy.*

A true copy:

JNO. ETHERIDGE.

NAVY DEPARTMENT, *August* 27, 1850.

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NEW YORK, *January* 24, 1850.

SIR: In obedience to your instructions of the 18th instant, we have inspected the mail steamer "Georgia," built under contract with A. G. Sloo, esq., authorized by the act of Congress of 3d of March, 1847, for the mail service therein contemplated, and have the honor to report that, in our opinion, she has been built in conformity with the requirements of the act of Congress above referred to. Although not in accordance with every particular stipulation of the contract, as has already been made known to the department by the superintendent in charge, she is constructed of suitable dimensions, build, and finish, to conform with the contract for carrying the mails on her destined route; and, with the preparations and additions of suitable war appointments, she could be easily converted into a war steamer of the first class.

The "Georgia" is now ready to receive on board the officers of the navy provided for by the fourth section of the act above indicated.

With great respect, we have the honor to be your most obedient servants,

M. C. PERRY.
J. McKEEVER.
S. HART,
*Naval Constructor.*

Hon. WM. BALLARD PRESTON,
*Secretary of the Navy, Washington.*

I concur in this report as to her ability to carry the mail on her destined route.

JOHN LENTHALL.

A true copy:

JNO. ETHERIDGE.

NAVY DEPARTMENT, *August* 28, 1850.

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WASHINGTON, D. C.,
*March* 15, 1850.

SIR: I have the honor to enclose herewith the first report of Lieutenant D. D. Porter, commanding the United States mail steamer "Georgia," giving an account of the performances of that ship on her first voyage, and addressed to me in conformity with my instructions to him.

With great respect, I am, sir, your most obedient servant,

M. C. PERRY.

Hon. WM. BALLARD PRESTON,
*Secretary of the Navy, Washington, D. C.*

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UNITED STATES MAIL STEAMER "GEORGIA,"
*New York, March* 10, 1850.

SIR: Agreeably to your instuctions, I lay before you a report of the performance of this ship since the time I have been in command of her.

I sailed from New York on the 28th of January last on her first voyage, with seven hundred tons of coal on board, two hundred tons of freight, and one hundred and eighty passengers, with an extra quantity of baggage. The ship's trim was sixteen feet forward, fifteen feet aft—that being considered her best trim for sailing by the contsructor. We cleared the bar of New York with the wind and heavy sea from the southward, which chopped round to the northwest in the course of a few hours, and ended in a gale, (not heavy.) I found the ship easy, though steering very badly, owing to being so much by the head. I immediately commenced trimming her by the stern, using coal from forward, and found she felt it at once. We made our run from New York bar to Charleston bar in fifty hours; had it not been for the bad steering of the ship, we would have run the distance in forty-six hours. The first twenty hours she averaged twelve knots an hour, and until we reached Charleston thirteen knots an hour. At Charleston laid her to, under main and mizen try-sails, to save coal; laid to very well, coming up and falling off a point only. From Charleston to Savannah we were four hours and thirty-five minutes; whole distance run seventy-three miles—nearly fifteen knots an hour. From Savannah to Havana we were sixty hours, against fresh breezes and gulf-stream. Whole running time to Havana from New York five days and twelve hours, including seventeen hours' detention at Savannah and Charleston. This is the quickest running on record by two days. From Havana we proceeded to New Orleans. The first four hours out the sea for the first time was perfectly smooth, and she ran fifteen miles an hour with fifteen pounds of steam on. Then we encountered a fresh norther, with a heavy sea; she made twelve knots an hour through it all, excepting for two hours, when I ordered the steam slacked up, as the sea was too heavy to force her; she made, however, twenty-four miles in three hours. As soon as the sea moderated I ordered the steam to be put on, not above fifteen pounds, and she ran the remainder of the distance (175 miles) against the stream in twelve hours and a half, reaching the bar at the Balize in fifty-six hours from her anchorage at Havana. Though the gale was not a heavy one, it was sufficiently so to test the ship. Nothing could be more beautiful than her performance—she being perfectly easy, and not feeling the shock of the

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head seas at all; her engines working as smoothly as if it was in smooth water. Her run from the bar up to New Orleans was a remarkable one, being performed in 8½ hours, against a very strong current—the distance, one hundred and ten miles. She burnt on her trip to New Orleans four hundred and forty-nine tons of anthracite coal: running time six days and twenty-three hours—distance two thousand and ten miles.

At New Orleans I took in six hundred and fifty tons of bituminous coal, bricked up the furnaces so as to cut off the fire-surface, and proceeded to Chagres, with four hundred and thirty passengers—ship drawing fifteen feet nine inches forward, fourteen feet four inches aft. Passed the bar at dead low water without any difficulty; wind blowing from the northwest at the time, and increasing gradually to a heavy gale; running under five pounds of steam. The ship, being by the head, steered badly, and had a tendency to broach-to as the sea increased. I put all the head sale she would carry on her, but it would not counteract the effects of the wheel-houses and the after-masts; and, as I was in no hurry, and thought it prudent to run no risks, I hove her to under steam alone, making about four turns a minute, and going to windward three miles an hour. She remained hove-to for fourteen hours; and I cannot speak in too high terms of her behaviour—being perfectly easy, giving evidence of great strength, and not taking on board a drop of water; engine working very smooth. When the gale moderated, I bore up on my course, and arrived at Chagres in six days and eight hours, carrying only five pounds of steam. Consumed two hundred and seventy-five tons of bituminous coal—distance 1,610 miles.

While at Chagres I had occasion to go to Porto Bello for water, and returning used only the two fore boilers, to save coal. With the two boilers she run from Porto Bello to Chagres in two hours and ten minutes—distance by patent log 28¼ miles; 29½ by the chart. Consumed five tons bituminous coal, including getting up steam, and averaged one ton and a quarter per hour while under way. Amount of steam carried, ten pounds.

We left Chagres on the 27th for Havana, and ran from anchorage to anchorage in three days and fourteen hours; distance run 1,120 miles, sixty miles current against us; ship light, and carrying fifteen pounds of steam. The first two days I carried twelve pounds of steam only until sure I had plenty of coal, when I ordered her to be put to her speed; at times she ran sixteen knots an hour, and averaged fourteen miles up to Havana. The last day's run we had a heavy sea on the quarter, and, being light, the ship rolled considerably, but steered remarkably well, which proves she only wanted to be on even keel to make her steer.

At Havana we stopped thirty-six hours, and took on board 369 tons of coal, part anthracite and part bad Scotch coal, half clinker. We cleared the harbor at six o'clock precisely on the evening of the 4th, with a fresh breeze ahead, fifteen pounds of steam on, and making twelve knots an hour. I trimmed the ship four inches by the stern, and all difficulty about steering was at an end; she steered for hours without scarcely moving the wheel. On the second day out the wind hauled round to southeast, freshening up and gradually increasing to a very heavy gale, with an ugly sea on, ship scudding under fore-sail, and steering well. Proper attention not being paid to my orders about using coal from forward, she gradually got by the head, and did not steer as well, proving her trim to be by the stern. She made most rapid headway with wind and steam, it blowing so hard at the time that it was with difficulty we could get our fore-sail in and furl it. Fifty-

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two hours from Havana the wind shifted to the westward; still blowing heavy. All this time the ship was so easy that not a thing in her moved from its place, and below the motion was scarcely perceptible—the engine making sixteen revolutions, and the ship making fourteen miles and over through the water. At daylight we found our patent log gone, on which we depended to know our distance run, but calculated we were up to Hatteras sixty hours after leaving Havana. On getting an observation, found we had run by the cape thirty miles, making the distance run from Havana 1,050 miles in sixty hours—no doubt the greatest distance ever yet performed by a ship. Hauled up for New York against a heavy northwest gale, making ten knots an hour, and arrived at the dock in New York in four days and three hours, including an hour's detention at quarantine.

The shortness of my stay will prevent my going more into particulars, and on my return to this place I will enclose you a copy of our journal.

Very respectfully, your obedient servant,

DAVID D. PORTER,
*Lieutenant United States Navy.*

Com. M. C. PERRY.

Received March 15, 1850, and respectfully referred to the Navy Department.

M. C. PERRY.

A true copy:

JNO. ETHERIDGE.

NAVY DEPARTMENT, *August* 28, 1850.

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PACIFIC MAIL STEAMSHIP COMPANY,
*New York, June* 21, 1850.

DEAR SIR: I have received, through Messrs. Howland & Aspinwall, your letter relating to the performance of mail service by this company in the Pacific.

Beyond thanking you for your attention in placing the subject before the company, I have only, in reply, to express my confidence that the duty in question has been fulfilled to the entire satisfaction of the government. In an early stage of the enterprise, a spare steamer was sent to the Pacific to strengthen our means of carrying out the contract; and for the same purpose a second steamer is now preparing for sea. I do not think we are assuming too much in adding, that the satisfactory performance of the mail service, in spite of every obstacle, has also reflected credit on the American character.

I have the honor to be, sir, your very obedient servant,

W. H. ASPINWALL,
*President.*

HON. THOS. J. RUSK,
*United States Senate.*

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NEW YORK, *June* 7, 1850.

MY DEAR SIR: I send you herewith a statement of facts, in answer to any queries which may be made by your committee in relation to our mail

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steamers, in accordance with a resolution passed in your honorable body the 27th ultimo; and for your kindness, by forwarding a copy of that resolution to enable me to do so, please accept the thanks of your friend,

EDWARD K. COLLINS.

To the Hon. THOS. J. RUSK,
*United States Senate, Washington, D. C.*

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NEW YORK, *June* 6, 1850.

SIR: I take the liberty to make a statement of facts in relation to the contract made by myself and associates, James Brown, Elisha Riggs, William S. Wetmore, and Stewart Brown, bearing date the 1st of November, 1847, to carry the mails between New York and Liverpool, in coformity to an act of Congress passed March 3, 1847.

By our contract, ships of 2,000 tons, which would cost $400,000 each, would answer; but, having in view the general interest of the government, as well as that of our own, and looking to mail steamers, if properly constructed—to be used, if occasion should require, for war steamers—and, with the latter object in view, knowing that the efficiency of a war steamer depended upon the weight of her guns and her speed, we resolved to build the largest, swiftest, and strongest steamers afloat—to do which we had to increase their size and cost fifty per cent. The British tonnage of our steamers, which shows their true size, is over 3,000 tons, and their cost will be over $600,000 each. Having determined to build that size, as there were no docks in Liverpool large enough to admit them, we immediately made arrangements to have docks built, to be ready in August, 1849; but, owing to the sudden death of one of the parties who had sold the ground where the dock was to be built, chancery proceedings were necessary before the title could be given, and they were only enabled to commence building the dock in 1849, when they assured us they should be ready by June, 1850. They have been working with the greatest diligence both day and night; but, owing to the extreme inclemency of the weather in England last winter, the dock cannot be ready for us before next fall. When the law was passed (March 3, 1849) extending the time to the 1st instant for commencing the service, it was supposed that we should not be subjected to the great risk which must attend our ships so long as the docks are not finished, to say nothing of the inconvenience of having to discharge and load our ships in the river. We have with two ships commenced the service before the time required by law, the "Atlantic" having sailed on the 27th of April, and the "Pacific" on the 25th ultimo. We have placed a set of moorings, that can be used for the protection of these two ships while in the river Mersey. We hold contracts for the "Arctic" and "Baltic," the next two ships, to have been completed last month; but, owing to the cholera having been very virulent in our city the last year, for three months it was almost impossible to get men to work—and if they did, they dare not do half the work they otherwise would have done. For the increased size of their engines over those of the "Atlantic" and "Pacific" we have to pay nearly $20,000 a ship more. Although we believe the power of the latter quite sufficient *for all purposes*, yet we wanted to render assurance doubly sure. We are making every exertion to have the "Arctic" and "Baltic" ready in August, intending to



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commence our semi-monthly trips in July, which we should have done this month but for an accident, *trifling in itself*, to the machinery of the "Atlantic"—and this is much to be regretted, for no expense has been spared to make the engines for all the ships *the best* ever built in this or any other country. The reports of the performance of the "Atlantic," on her voyage hence to Liverpool, are highly gratifying; and, if reports are true, other than the remaining ships of our line her equal does not float.

I send you herewith a copy of a card signed by the passengers of the "Atlantic." The chairman of the committee who drew the resolutions was Edwin Stevens, esq., brother of the Messrs. Stevens of Hoboken, all of whom are known to be gentlemen thoroughly versed in all matters connected with steam navigation. To introduce the boilers we have, it has cost over $25,000 a ship more than it would otherwise have cost, had similar boilers to those of other ocean steamers been adopted. It is true, the saving of fuel with such boilers, not only to us, but to all government vessels, will be very great, and add much to the efficiency of all steamers, for whatever service. For the performance of the "Atlantic's" engines and boilers, I refer you to an extract of the chief engineer's letter, at foot.

The course the English government seem inclined to pursue in relation to our mail steamers appears to render it necessary that power should be given to our Postmaster General to make arrangements for alternate American and English mail steamers; otherwise the revenue from postage to our government will, I fear, be much less than if that arrangement could be carried out. I view this mail service between the two governments of more importance than most persons do; for whichever country carries the palm in the mail service, will carry it in war. This subject has long engrossed my attention; but I have not been enabled to get our government to concur in my opinion. Should you desire to see or hear from me further on this subject, I will with pleasure attend your bidding.

By an act of Congress passed ————, we are advanced $317,500, being on account of our first year's compensation.

The timber for our fifth ship is preparing, and we only wait to see which of the four ships now built is the fastest.

Yours, respectfully,

EDWARD K. COLLINS,
*For self and associates.*

To the Hon. T. J. Rusk,
*Chairman Committee on Post Office and Post Roads of the U. S. Senate, Washington, D. C.*

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*The steamer "Atlantic."*

We learn from a private letter, written by a gentleman who went out as passenger in the "Atlantic," that she was compelled, on the 2d of May, to stop to repair her paddles; and that very soon after starting again, it was discovered that the air-pump bucket or valves of the larboard engine had broken. During the three following days, she proceeded with one engine only. Mr. Rogers, the engineer, ingeniously managed during that period to start the disabled engine on a high-pressure movement, and after that she made very good progress.

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We understand that the engines performed admirably. The following extract of a letter from Mr. J. W. Rogers, the chief engineer, to the agent of the steamer, upon this particular point, will be read with interest:

"LIVERPOOL, *May* 11, 1850.

"Of the performance of the engines and boilers, I am indeed at a loss to find fitting terms to express my approbation. The operations of the boilers, notwithstanding all that has been said and written to the contrary, have proved them to be *the* boilers for ocean steamers. The engines, except the giving out of the air-pump bucket, have far exceeded my most sanguine expectations."

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The following are the resolutions adopted by the passengers alluded to above:

"The undersigned, passengers on board the United States mail steamer 'Atlantic,' Captain James West, on her first voyage between New York and Liverpool, cannot separate without a distinct expression of their views and feelings relative to the superb steamer which has safely conveyed them over the Atlantic.

"They regard this ship as the pioneer of a new and efficient line of steamers, originating in the private enterprise of citizens of the United States, and fostered by the United States government; and they cannot refrain from expressing their confidence in the stability, the safety, and the speed of these vessels, nor from testifying to the general elegance with which they are adorned, and to the manifold comforts which abound in their spacious saloons, dining-rooms, state-rooms, &c. Feeling thus, they deem it their duty to Captain West, and to the officers of the ship generally, to express the satisfaction and pleasure they have had in their present passage over the Atlantic, and to say, in addition, that they are fully persuaded that this noble vessel, and the other steamers of this line now being prepared, will meet the highest expectations of their owners and the friends of the enterprise. They therefore unite in the following resolutions:

"1. *Resolved*, That in Captain West we recognise a skilful navigator, and a gentleman whose urbanity, civility, and politeness are entitled to the warmest commendation.

"2. *Resolved*, That the thanks and good wishes of the passengers are also eminently due to Mr. John W. Rogers, the chief engineer, for the faithfulness and ability he has shown in his department, under the peculiar disadvantages of a first voyage.

"3. *Resolved*, That the officers generally have won the esteem and regard of the passengers, both for their gentlemanly demeanor and for their strict attention to duty; and that we cannot part with them without bidding them all God-speed.

"4. *Resolved*, That they feel fully justified in stating, that the present passage of the steamer 'Atlantic,' with a thorough knowledge of the causes of her detention by untoward circumstances, has been entirely satisfactory and pleasant; and that we consider it as a precursor only of that which she is able to perform, believing her to be one of the swiftest, safest, and most commodious sea-steamers afloat; and that we consider it due, also,

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to the originators and owners of this line of steamers to express a just pride in the first movement of this great design.

"5. *Resolved*, That, for comfort and convenience, the 'Atlantic' is all that could be desired.

"6. *Resolved*, That the proceedings of this meeting be published, and that a copy be transmitted to Captain West, and to the president and secretary of the New York and Liverpool Mail Steamship Company."

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No. 2.

NEW YORK, *January* 21, 1849.

SIR: I have received your communication of the 18th instant, requesting information respecting the construction and equipments of the United States mail steamers built and building in this port under my inspection.

The Ohio and the Georgia, built by order of Mr. Law, under Mr. Sloo's contract, were commenced, their frames raised and partly planked, previous to my appointment. The contract called for that which could not be procured in New York—materials equal to those of the Missouri. Such being the case, and mixed frames substituted of similar materials to those of the two steamers built for Mr. Collins, according to the specifications agreed to by the United States government, and which vessels are of much larger dimensions than Mr. Law's, I consider that to be a sufficient basis to go on.

The Ohio, built by Bishop & Simonson, is much larger than called for by contract. Her dimensions are: length of keel, 228 feet; length on deck, 248 feet; extreme beam, 46 feet; depth, 25 feet; height between decks, 8 feet; height on orlop deck, 8 feet; custom-house tonnage, 2,400 tons.

The materials are live oak, white oak, locust, cedar and chestnut frames; white oak and yellow pine planking and beams. The materials of fastening are copper, composition, iron and locust treenails and spikes.

This ship has great spread of floor, good beam, and by removing the temporary houses on the spar-deck, would have spacious deck-room for guns.

The engines under construction are two side-lever engines, cylinders ninety inches, with eight-feet stroke. The nominal horse-power of both is 689.4 by Messrs. Bolton and Watts's tables, which rule is very arbitrary, and is computed thus: multiply the square of the diameter of cylinder in inches by the cube root of the stroke in feet, and divide by 47. This may be, truly, about one-half the power.

The ship Ohio is well timbered and well fastened—a good model, except the projecting bow. There is not much copper used, which would be useless expenditure, considering the probable duration of the ship in a sound state not to exceed ten years. She has no diagonal iron or wooden trussing on the frames, but has substituted a diagonal hog bracing from the keelson to the beams, and from the beams to the bilge. This being a new experiment on sea-steamers, it yet remains to be tested to prove its efficiency.

I have reported to government the quality and dimensions of materials throughout, and no objection or remark has been made.

The Georgia (built by Messrs. Smith & Dimon) is also much larger than called for by contract. Her dimensions are: length of keel 225 feet;

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length on deck, 249 feet; extreme beam, 49 feet; depth, 25 feet; height between decks, 8 feet; orlop, 8 feet; custom-house tonnage, 2,570 tons.

The materials of this ship are similar to those of the Ohio, and both frames may be considered good.

This ship has great beam, with spacious room on deck for war purposes. Her engines will be of the same kind and power as the Ohio.

The Georgia, although of similar materials, has a lighter frame and is not so thoroughly fastened. She would, of course, be estimated according to her qualities, by the appraisers appointed by law.

Mr. Aspinwall's two ships, California and Panama, are of the same mixed materials. They are proportionally much more heavily framed, planked and fastened than the Ohio and Georgia, and have a diagonal iron trussing, four inches wide by three-fourths of an inch thick, let into the timbers flush at an angle of forty-five degrees, extending from the floor-heels up to the plank shire, distance apart three and a half and four feet, and bolted with seven-eighths iron through every timber. They are, for their size and tonnage, equal in strength to any ship that I have seen or heard of, (the Cunard steamers excepted.)

The Oregon, built by Messrs. Smith & Dimon, Mr. Aspinwall's third ship, is also a strong ship, inferior to the other two only in fastenings, and is fifty per cent. larger than called for by contract. They are propelled by single side-lever engines, cylinders seventy inches, and eight-feet stroke; nominal horse-power, by Bolton and Watts's table, 208, each with two drop-flue boilers; fire-surface 28 feet, grate 96, each vessel.

Mr. E. K. Collins's specification and agreement with the government call for much less than has been executed, such as iron diagonal framing only *one* way; whereas they are double, crossing each other at right-angles, and well bolted to timbers, and riveted together; also the filling in amidships has been extended the whole length of the ship, with many other additions.

The dimensions of these ships are: length of keel, 274 feet; on deck, 280 feet; extreme beam, 45 feet; depth, 31 feet; between decks, 8 feet; middle deck, 7 feet 9 inches; orlop, 7 feet; and the custom-house tonnage about 2,700. They are well built and thoroughly fastened. It is to be regretted that live oak could not be procured for their entire frames, as they are mostly bolted with copper throughout.

The engines, constructing by Messrs. Stillman, Allen & Co., and J. P. Allaire & Co., are, for each ship, two engines of 95 inches cylinder, with 9 feet stroke, equal to 800 horse nominal power.

These ships have great buoyancy, flat, broad floors, extending well forward and aft, with sharp ends, and are considered beautiful models.

They have spacious deck-room, and could carry guns of the largest calibre on the gun or middle deck. They are now preparing to launch.

These ships can all, in case of emergency, be converted into *fast* war steamers. They would by law be received by appraisement on their original cost, and their efficiency as to strength and materials.

The necessary alterations included, would cost the government much less—perhaps one-half the amount required to build or purchase for the occasion.

In case of war, there would be no time to build; and these are the only ships of sufficient strength and size in the United States that could be converted into war steamers, *with two or three exceptions.*

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Our capitalists are not yet bold enough in sea steaming; and should the experiment of mail ships prove a failure, *their* loss will be the less; and if successful, the encouragement will induce them to procure superior ships; and, as they receive pay only for *services performed*, the loss will be to the owners, and not to the United States government.

I am not aware that my duty includes the superintendence of the engines; my instructions specifying, particularly, the construction of the ships. Such are the facts and views I have to submit in relation to the mail steamers, which will enable you to compare correctly the differences of the several vessels.

I am, respectfully, your obedient servant,

WM. SKIDDY.

Com. M. C. PERRY, *General Superintending Agent for U. S. ocean mail steamers, New York.*

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TARRYTOWN, N. Y., *January* 30, 1849.

SIR: I have the honor to acknowledge the receipt of the copy of a law of Congress, providing for the building and equipment of certain mail steamers, together with copies of the several contracts made in conformity to said law.

In accordance with my general instructions from the department, I have carefully examined the vessels at present under construction and equipment; and in comparing them with the precise stipulations of the respective contracts, I find some deviations. These are partly referred to in the accompanying letter from Captain Skiddy, written in reply to some inquiries of mine addressed to him; and it seems to be proper that I should add a few remarks in further explanation.

With regard to the steamers contracted for by Mr. Arnold Harris, and now under control of Mr. Aspinwall and associates, though only examined by me after they had been prepared for sea, I am clearly of opinion that they are good, substantial vessels, well adapted for the service for which they were intended, excepting only that they would have been much better with double engines and an additional boiler. This contract does not enter into details in reference to manner of construction, but merely provides for carrying the mails to and from Panama to ports of the United States in the Pacific ocean, in good, substantial vessels, so constructed as to be easily converted into war steamers.

Of the contract of Mr. Albert G. Sloo, at present in the hands of Mr. George Law and associates, the "Falcon" has been temporarily employed, and two first-class steamers, the "Georgia" and "Ohio," have been launched, and are now in readiness for receiving their engines and boilers, which are nearly completed, and in their several parts, as seen in the ships, appear to be of the most perfect and substantial character.

The contract of Mr. Sloo stipulates that his vessels shall be constructed of approved materials and fastenings, similar to those of the late United States steamer "Missouri;" to have engines of direct action, of 1,000 horse-power. The deviations are, that the material and fastenings are not equal to those of the Missouri; and instead of direct-action engines, they are to have the ordinary side-lever marine engine, a kind more generally in use, and of cost quite equal to those contracted for. As respects the stipulated power of the

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engines, those under construction will be, nominally, somewhat less than 1,000 horse-power; but the various modes of calculating the power of engines are, in a great measure, conventional, and it may be correctly estimated that those at present referred to may be safely and practically worked up to the stipulated extent, if not to greater power. The models of these vessels are excellent, and they bid fair to have good speed—much greater than that of the "Missouri" and "Mississippi," owing to their lighter frames and rig.

It is but just to state, that some of the provisions of this contract stipulated for that which could not possibly be accomplished within any reasonable space of time. At no period in the last ten years could an entire frame of live oak, and other approved kinds of seasoned timber, be procured at New York for a first-class steamer, unless from the navy yard;* hence the impracticability of having the materials of construction equal to those of the "Missouri," and the consequent impolicy of using the like expensive fastenings.

The contract of Mr. E. K. Collins and associates is in progress of completion. Two ships, the "Atlantic" and "Pacific," are nearly or quite ready for launching, and their engines and boilers are sufficiently advanced for commencing the work of putting them on board. Great pains have been taken to make the engines of these vessels, as well as those of the "Georgia" and "Ohio," worthy the high reputation of the respective establishments at which they are being constructed.

As the contract with Mr. Collins does not refer to any particular vessel as a guide for the model or manner of construction of his ships, he has availed himself of the best materials at command, and of his well known judgment and experience in ship-building, in producing two very superior sea-steamers. The deviations from the provisions of his agreement are, in some respects, that his vessels are, according to the statement of Captain Skiddy, better fastened than was contracted for, and instead of engines of direct action, he also has preferred the side-lever engine. These will be, of nominal power, about 900 horses, but of sufficient capacity to work conveniently at a higher rate.

The several contracts provide that all these steamers shall be so constructed as to be easily converted into war vessels, should the government exercise its right of taking them into the public service, under certain stipulations. So far as respects their suitableness for convertibility, it may be remarked that in view of the service which they are expected to perform to their present owners, in the transportation of the mails, with passengers and freight, they will be fitted with numerous cabins below and above deck. These or most of them would be necessarily removed for the reception of an armament and the requisite crew of a vessel of war, and it would also be necessary to arrange magazines, shell-rooms, shot-lockers, and other secure lock-up places in the hold, for which there would be ample space.

Steamers are more easily armed than sail vessels, inasmuch as they have greater space on deck for heavy pivot guns, which are decidedly preferable for vessels of this description, possessing, as they do, greater facilities of mo-

* In a report made by me to the Navy Department, by order of Mr. Secretary Bancroft, upon the availability of the private steamers of New York for harbor defence, and upon the means of rapidly constructing war-steamers at private building-yards, I particularly refer to the scarcity of seasoned timber in the hands of ship-builders or lumber dealers.

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tion, and consequent choice of position. Very little time would be required in arming and equipping them for war service, as nothing more would be wanting than the removal of their light deck and cabins and the arrangements for the armament, munitions and stores, with some necessary strengthening of the gun-deck.

On the whole, therefore, I feel myself free to observe, that as a first experiment, the three contracts above referred to promise to result to the United States, and to the contractors, as favorably as could have been expected under all the circumstances. The undertaking is one of vast magnitude for individual enterprise, and of momentous character to the commercial interests of the country—an undertaking alike creditable to the liberal views of the government, and the public spirit of the contractors; and though it may not be possible to accomplish according to the very letter, all the stipulations originally contracted for, yet enough will be done to reflect honor and credit upon *both* contracting parties.

If the vessels are not constructed with as much care and expense as those at our navy yards, it has been in some measure because the best materials could not be obtained; and whether they are as substantially built or not, they are only to be taken into the public service at an appraised valuation.

They will all have the merit of possessing the great essentials of capacity, buoyancy and fleetness, and capability of carrying effective armaments; and if taken for their estimated worth at the time of transfer, the government will be the gainer at a period of emergent want for such vessels.

With great respect, I have the honor to be, your most obd't servant,

M. C. PERRY.

To the Hon. JOHN Y. MASON,
*Secretary of the Navy, Washington.*

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NEW YORK, *April* 9, 1850.

SIR: The necessity of my leaving hence for Annapolis this week, and the consequent shortness of time previous to my departure, together with other official occupations, will necessarily limit the scope of my replies to the questions propounded by the Naval Committee of the Senate, and transmitted to me by the Navy Department. I shall therefore confine myself to general remarks, as in truth most of the questions call for details which can only be obtained by reference to the books of the department, or to papers of my own, not now within my reach.

Reply to question *first:* The models of the ocean steamers built under the recent laws of Congress, whether for the navy or mail service, may be considered excellent, though necessarily somewhat different. The form and dimensions best adapted to a war steamer would not be the most suitable for a commercial vessel.

The great object aimed at in the latter is speed, with ample accommodations for passengers and reasonable space for freight: little or no regard is paid, in their construction, to the protection of their engines and boilers from shot, or to the convenience of converting them into war steamers.

Experience has shown that the best general proportions for a war steamer with side-wheels, are six times the *breadth* for the *length*, and two-thirds the *breadth* for the *depth*. With commercial steamers these proportions may be departed from, and probably to advantage, by increasing the rela-

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tive *length*, and decreasing the proportional *depth*. But it should be borne in mind that depth in large war steamers is desirable, in view of placing the engines and boilers below the water-line.

*Second:* Commercial ocean steamers are constructed in this country mostly of *unseasoned* timber, of various descriptions, indigenous to our soil. The durability of the vessels before requiring thorough repair, may be estimated at ten years—the time usually limited to our best merchant ships, though there are many exceptions to this estimate. It is said by the New York ship-builders, that if a ship escapes the rot the first year of her employment at sea, she will usually run about *ten;* but it must be recollected that a steamer will be pretty well worn out in that time, and become of little value, as this description of vessels are infinitely more strained in service than those moved solely by sails.

The durability of our war steamers, as well as other vessels of the navy, can best be ascertained by reference to the books of the Navy Department. There are some mysterious causes which produce decay much sooner in the hulls of vessels of war, as well in our own as in foreign navies, which have never yet been satisfactorily explained.

*Third:* A reply to this question must be in some measure conjectural, without a reference to papers in the builders' department, though the probable weight of hull per ton of Collins's ships may be estimated at about five-eighths or three-fourths their actual tonnage when launched. War steamers should be of somewhat stronger construction to enable them the better to bear an efficient armament, though I am clearly of opinion that our large ships of war have hitherto been constructed of materials entirely too massive.

*Fourth:* The probable cost of building the hulls of the ocean steamers already completed under the several contracts for carrying the mails, may be presumed to vary, including cost of materials, from fifty-five to seventy-five dollars per ton, custom-house measurement. This estimate does not embrace the cost of extra cabins or ornamental work. The cost of labor per ton is from twelve to fifteen dollars.

Contracts for the building of commercial vessels in New York are generally entered into by ship-builders having capital at command, who job out the various departments of construction and finish, to subordinate leaders of gangs of workmen, by which arrangement a great saving of expense is secured. This system of job work has been tried with indifferent success at the English and French dock yards, but to a very limited extent only.

*Fifth:* It is estimated that the ships of Collins's line, each about 2,700 tons, will have accommodations (exclusive of room for engines, boilers, and 800 tons of fuel) for 150 passengers and 1,200 tons of freight.

*Sixth:* The highest probable speed that can, with known machinery, be given to commercial steamers of 1,500 tons and upwards, carrying fourteen days' fuel, may be estimated for a short time in smooth water, and when light from consumption of coal, at thirteen nautical miles per hour, for a mean rate, embracing an aggregate of voyages across the Atlantic. Perhaps ten and one-half knots may be accomplished, though I doubt whether any of the recently built ocean steamers will exceed a mean speed for a succession of voyages of ten knots, and this rate of going would have been considered incredible only a few years ago.

*Seventh:* I consider the paddle-wheel the best instrument for propelling

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ocean steamers; some difference of model of hull would be desirable in the adoption, respectively, of the paddle-wheel or the submerged propeller.

*Eighth:* The mail steamers of the contracts of Howland & Aspinwall, of George Law and of E. K. Collins, can be easily converted into war-steamers for temporary service, in cases of particular emergency. These vessels, with little strengthening of the decks, can be made to carry each a few guns of heavy calibre, and may be rendered useful in convoy, in the transportation of troops, carrying despatches, conveying public functionaries, &c., &c., but their service could only be contingent, and, as before remarked, *temporary*.

The cost of converting them to war purposes would be large, and in no respect would they be as economical, or in any way equal to vessels built expressly for government service; nor should they, in my opinion, interfere in the least with the organization and gradual increase of an efficient and permanent steam navy. The use of steamships in our future naval operations must inevitably change in a great degree the art of naval war. Indeed, no one can imagine what changes will be effected, as well upon the ocean as upon the land, by means of the new agencies which have been more practically developed within the last quarter of a century.

*Ninth:* In my opinion "a war steamer of 1,500 tons can be constructed of such a model that the full-load draught shall not exceed ten feet," and without any great sacrifice of speed, but certainly at the expense of *strength*, and many other essential requisites for a war vessel.

Her speed, under the most favorable circumstances, *supposing her to have great relative steam power*,* would not much fall short of that estimated in my reply to question sixth.

With great respect, I am, sir, your obedient servant,

M. C. PERRY.

The Hon. WILLIAM BALLARD PRESTON,
*Secretary of the Navy, Washington.*

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OFFICE OF ENGINEER-IN-CHIEF U. S. N.,
*April* 20, 1850.

SIR: Your letter of the first instant, together with its enclosures, have been received and considered; and in reply I have to present the following communication, embracing replies to such of the several questions as are immediately restricted to the requirements of this office:

"1. What is the relative excellence of the models of the commercial and naval steamers, and does the difference of service require different models, or should the best model in one case be the best for the other?"

1. The requirements in models of steamers for the commercial and naval services differ in a majority of cases so widely, that each service may have its appropriate model relatively excellent, and consequently the best model in one case may not be the best in the other.

The occasions of different requirements in the commercial service occur from restrictions to particular draughts of water, freights, proportions of passengers to freight carried, the necessity of their constant occupation

* Speed may be increased to a certain extent by increasing the relative proportion of steam power to the tonnage of the vessel, but the wear on the vessel would be the greater.

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and the greatest attainable despatch of voyages rendering them solely dependent upon steam as their moving power. In the naval service they occur from the necessity of a stability to maintain in position their armament, spars, rigging, and sails; and the latter with a cruising steamer are as essential elements in their capacities as steam itself; also in the working of the bow and stern guns, which are necessarily the locations of their attacking batteries, and it is indispensable to their proper and ready ranges that they should be located as near to the extremes of the vessel as the conformation of the deck will admit of; and in order to support them at these points, a capacity and strength of hull (at these points) essential to this service is imperatively required, and which involves a weight of extremities of the vessel and angle of water-lines opposed to the rate of speed so essential in the commercial, though equally desirable in the naval service.

"2. What is the relative durability of ocean steamers in the commercial and naval marine; and to what causes should the difference, if any, be attributed?"

2. The durability of naval steamers, regarding their engines, boilers, &c., to which point I confine myself, for equal terms of operation, may, as a general rule, be estimated at one-half greater than that of commercial steamers, and the difference is attributable to the fastenings of the engines being better secured against oxidation, a greater proportion of copper and brass being used in the engines, the copper in pipes (injections, blow-off, &c.) being thicker, and that the engine frames and fastenings are less subject to undue resistances from over-depression of the hull, coupled with an effort at such times to obtain a maximum speed.

"3. What excess of strength, if any, should the naval steamer possess?"

3. The naval steamers, from being required at times to work under canvass alone, require greater security of engine-frames and guard-beams, in order to meet the torsional strain of the hull consequent upon the effect of her canvass, and that of the heell of the vessel with the wind abeam.

"5. What portion of the total tonnage of the vessel can be appropriated by engines, boilers and fuel, in the commercial steamer, without rendering the vessel unable to perform her required service?"

5. It is difficult to meet this question with a reply that will cover it in a satisfactory manner, as the proportion of power, model of the vessel, the term of service required, &c., &c., control the proportions desired. As an exponent of this, the capacities of the steamers for freight, independent of passengers, their baggage and stores, now and about running between New York and Liverpool, range from fifty to one hundred tons.

"6. What is the highest practicable speed with known machinery that can be given to ocean commercial steamers of 1,500 tons and upwards, carrying fourteen days' fuel?"

6. The highest average speed that can be given to such steamers, under the circumstances referred to, and with existing elements of applying power, may be safely stated at 15.5 knots, or 18 statute miles.

"7. What is the best instrument for propelling commercial ocean steamers, the paddle-wheel or submerged screw? and do these instruments require different models for the hull?"

7. There are two conditions of commercial ocean steamers, and which may be classed as the passenger and light freight, and the heavy freight steamers. With the former the best instrument is the side-wheel; not that it is a more effective instrument for equal means and expenditures

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of fuel, but on account of the facility afforded of making repairs to it, and the circumstance that commercial passage steamers cannot resort to canvass, other than when their engines are crippled or disabled; and as strict steamers, there is not the objection to the resistance of the wheel-houses that there is when canvass is resorted to. With the latter class the screw-propeller, in combination with spars and canvass, is the best instrument, and for the following causes: the required power can be had with less occupancy of room than with side-wheels; and that when the vessel is under canvass and at a rate of sailing which would induce a cessation of steaming, the resistance of the propeller by its drag is very slight.

There is another feature in the adaptation of a screw-propeller to this latter class of vessels, which is conclusive as to its benefits; it is this: for all vessels, except with very large ones, and where the proportion of power to the resistance is very great, this propeller can be turned up out of water, and the bottom of the vessel left as unrestricted in its passage through the water as a sailing vessel; with the attendant advantages of the increased proportions of length, involving easier water-lines and the stability of a steamer.

Finally, the peculiarities with side-wheels and screw-propellers do not require a difference in the models of hulls, rendering the requirements of the one incompatible with those of the other.

"8. Do you consider commercial ocean steamers, as now built, convertible at once into war steamers, and capable of efficiently performing war service?"

8. As now built, commercial steamers (confining myself to their engines, boilers, &c.) can be converted into war steamers, so far as the general design of their machinery will admit of, within the time necessary to alter the hull, to provide for the magazines, storerooms, &c., to alter the cabins, to spar, rig, and equip them.

As to their efficient performance of war service, it appears to me that there would be injustice in the expression of an opinion (elicited with a view to furnish the basis of a rule of action) which was inapplicable in all cases. The answer, then, to this point of the question is best given in a review of the cases now existing, and the peculiarities already referred to alone would control others.

With a large majority of the commercial ocean steamers now built, the proportions, capacities and construction of their hulls, and the design and arrangement of their engines and boilers, are such as to render them incapable of efficient and economical war service, without incurring an expenditure in alterations and a loss of time that would not, except in cases of national emergency, be at all repaid by the ultimate durability of the hulls of the vessels in their ready transfer to, or in their economical performance of active service.

In illustration of the differences of construction existing in the naval and commercial services, and of the understanding of the requirements of the naval service, which has existed with individual constructors, some extracts from a communication from this office of the 9th February last are herewith submitted, viz:

"It is frequently alleged that sea-steamers, combining the capacities of effective mail service and of ready conversion to naval purposes, could be constructed in the merchant service at less than half the cost than that required when they are constructed in the naval service; and, further, that the

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talent and experience of constructors at command of individuals was superior to that under the control of the government."

In reply to these positions, the following memoranda are presented:

The steamers Missouri and Mississippi were the first marine steamers built by government, and the Washington and Hermann were the first of that character built for the mail service; they are therefore as fair exponents of the capabilities of the two services as can be submitted: the navy, however, having the disadvantage of being the pioneers by several years. Further, these vessels are the exponents of the capacities of the two services which are selected by the authors of the allegations referred to.

*Steamers Washington and Hermann, of the New York and Bremen line.*—These vessels cost, when first put in operation, respectively, $252,000, and $360,000.

Their frames are not solid below; they are built of white oak and pine. Their frames are only abut-bolted, being treenailed at other points; they are without the armament, spars, rigging, ground-tackle, and stores of a naval steamer, and they have but two *iron* boilers.

From the want of stability of these vessels (without even the spars of a naval or cruising steamer) it is necessary, in order to effect an Atlantic passage, that they should be immersed to a draught of water, when leaving port, equal to that of a razeed ship-of-the-line or a first-class frigate; and in order to attain a fair speed it is necessary, from their insufficient proportions and the incapacity of their boilers, to expend the enormous amount of from 55 to 65 tons of coal per diem of 24 hours.

The manner of construction, the insufficient proportions, and the equipment of these vessels, may be justly estimated by a consideration of the following elements:

1. They are so deficient in stability, *without the spars and armament of a naval steamer*, that it is necessary to depress them beyond their intended limits, in order to effect their passages with the probability of security.

2. From their deficiency of construction, their want of suitable materials, their insufficient fastenings, and the want of experience in their design and direction, they have involved, during the brief period of their existence, the expenditure of sums equal to their entire first cost.

3. Many of the engine and boiler-pipes of these vessels have been broken in their passages, from the working of their hulls.

4. During the period elapsing from the first commencement of the service of these vessels, they have, by the loss of time incurred in repairs and alterations, been prevented from the performance of one-third of the mail service for which they were designed and for which their owners contracted.

*United States steamers Missouri and Mississippi.*—These vessels were built at a cost of $600,000 each; their hulls were of live oak, with solid frames below, copper-fastened, and with iron trussed sides; their boilers, four in number, were of copper; and they were heavily armed, fully rigged, equipped and stored for immediate and continued service.

The character of these steamers may also be justly estimated by a consideration of the following elements:

1. They have attained a higher speed under steam, and under canvass alone, than that which has been attained by any other naval steamers;

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nor do they suffer in heavy weather by their insufficiency in design or construction.

2. The materials of the "Mississippi" (the Missouri has been lost) would command, at public sale, a sum equal to the first cost of the "Washington."

3. The "Mississippi" can be steamed at equal speed with the "Washington" at an expenditure of one-half the fuel; the consumption of the former being but twenty-seven and thirty tons.

4. The annual repairs of the engines, boilers and wheels of the "Mississippi" have been less than the annual repairs upon the wheels alone of the "Washington," and the engines of the first named vessel are nine years old.

Another method of estimating the real merits of the subject is arrived at in an exposition of the true sentiments of the individuals who, having witnessed the operations of the steamers already built, are now embarking in the mail-steamer service, and are availing themselves of the results of the experiments had.

Thus the third and fourth steamers of the New York and Bremen line (the Washington and Hermann being the first and second) are now in progress of completion.

The third, designed and launched nearly two years since, will cost nearly the sum that is advanced as a charge against the propriety of the government in expending it upon their steamers, whilst the fourth will cost fully that amount; her proprietors paying for her engines and boilers, alone, an amount nearly equal to the entire first cost of the Washington.

The steamers of Mr. Collins's line now in progress of construction will cost $550,000 each. Yet the boilers of these vessels, and all the other mail steamers, are of iron, their hulls are not constructed of live oak, and the vessels are without the spars, rigging, armament and equipment of naval steamers.

Reviewing, then, the facts presented, the following positions may with propriety be assumed:

*First.* The first mail steamers have proved inadequate to their service, from the insufficiency of their construction; and after but two and a half years' service, and at a cost of repairs and alterations exceeding their first cost, they are now incapable of any useful naval purpose; they therefore, an ignorance of their worthlessness existing, are estimated in our means of naval defences; and when required for such purpose, the dependence would prove as disastrous to our national interests, as their construction has been to our professional reputation as constructors and engineers.

*Second.* The first naval steamers have ever been pronounced, by competent judges, unequalled by the like productions of any country; and although nine years old, the "Mississippi" is the most economical and efficient steamer now afloat in any waters; that is to say, her engines drive a greater area of immersed section of hull, at a higher rate of speed, with less cost of repairs and consumption of fuel, than any steamer yet built out of our own naval service.

*Third.* The method of construction adopted by the New York and Bremen line, in the production of the Washington and Hermann, and which is alleged as being superior to that practised in our naval service, was not only not followed by Messrs. Howland & Aspinwall of the Pacific line, by Mr. Law of the New York and Chagres line, and by Mr. Collins of the New

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York and Liverpool line; but it is openly repudiated by the proprietors of the New York and Bremen line, in the construction of their new steamers.

*Fourth.* When the prospects of a rupture between this country and Great Britain were considered probable, the British admiralty considered it necessary that greater care should be taken, in the construction of their mail-steamers, to assimilate them to the requirements of naval purposes; and in order to effect this, they issued the requisite instructions, and under their operations the new steamers of the Cunard line differ in proportions and arrangements from the previous vessels of the same line.

In my opinion, then, not only more stringent requirements should be had in the steamers yet to be received, but the developments of the operation of the mail-steamer service, in the peculiar requirements of its vessels, in their existence closing proper schools to the personnel of a navy, and in the greater cost involved in the construction of equal vessels in the merchant service, over that incurred at our naval stations, render the application of the existing mail-steamer service, as an integral or even reliable incidental portion of the naval service, as subversive of its utility, efficiency, and economy.

In the collection of the elements asked for, to fill the blanks in the printed form, accompanying your letter, observance has been confined to the drawings and records of this office.

I am, very respectfully, your obedient servant,

CHAS. H. HASWELL.

Hon. Wm. Ballard Preston,
*Secretary of the Navy.*

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Navy Department,
*Bureau of Construction, &c., April* 26, 1852.

In compliance with the call for information made by the chairman of the Naval Committee of the Senate, in relation to steam navigation, &c., submitted to this bureau on the first instant, I have the honor to reply to the questions submitted, in the order in which they are propounded.

1. What is the relative excellence of the models of the commercial and naval steamers, and does the difference of service require different models, or should the best model in one case be the best for the other?

*Answer.*—The models are adapted to the service for which they are respectively designed, and, being different, require different models.

2. What is the relative durability of ocean steamers in the commercial and naval marine, and to what causes should the difference, if any, be attributed?

*Answer.*—Ocean steamers belonging to the commercial marine have been so recently adopted, that no data can be collected to judge of their durability. The United States steamer "Mississippi" has been running nine years, is now in the Mediterranean, and is not second in point of excellency to any steamer afloat.

3. What is the weight of hull per ton, carpenter's measurement, the vessels being from 1,500 to 3,000 tons, or quantity of timber, in the commercial steamers; and what excess of strength, if any, should the naval steamer possess?

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*Answer.*—The weight of hull proper per ton, carpenter's measurement, is in commercial steamers five-tenths to six-tenths of the tonnage, and naval steamers should exceed this from ten to fifteen per cent.

4. What is the cost per ton of constructing the hulls of commercial steamers, exclusive of cost of materials and inclusive of cost of materials?

*Answer.*—The cost per ton for constructing hulls of commercial steamers is, for labor, from $20 to $25 per ton; and for labor and materials, from $55 to $70 per ton, carpenter's measurement.

5. What portion of the total tonnage of the vessel can be appropriated by engines, boilers, and fuel, in the commercial steamer, without rendering the vessel unable to perform her required service?

*Answer.*—From one-half to two-thirds the tonnage, depending in some degree upon the required service.

6. What is the highest practicable speed that can, with known machinery, be given to ocean commercial steamers of 1,500 tons and upwards, carrying fourteen days' fuel?

*Answer.*—About fourteen or fifteen miles per hour, provided other things are sacrificed to obtain speed.

7. What is the best instrument for propelling commercial ocean steamers, the paddle-wheel or submerged screw? and do these instruments require different models for the hull?

*Answer.*—The paddle-wheel is generally considered the best instrument of propulsion where speed is required; but for the purposes of war the screw would be preferable, and they do require different models.

8. Do you consider commercial ocean steamers, as now built, convertible at once into war steamers, and capable of efficiently performing war service?

*Answer.*—They cannot be converted into war steamers without great expense, and then they would be inferior to those designed solely for that purpose.

9. Do you consider that a war steamer of 1,500 tons burden can be constructed of such a model that the full-load draught shall not exceed ten feet, without sacrifice of speed being made to obtain a model that will give this draught? and what do you consider the highest speed that can be given to such a steamer, carrying ten days' fuel, no limit to cost being imposed?

*Answer.*—It is doubtful whether a steamer of 1,500 tons could be constructed to draw ten feet of water, loaded, without some sacrifice of speed to obtain the necessary model. They could, however, be built to carry ten days' fuel, and steam at the rate of from eight to ten miles per hour.

I am, sir, respectfully, your obedient servant,

CHAS. WM. SKINNER.

Hon. Wm. Ballard Preston,
*Secretary of the Navy.*

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Treasury Department, Fourth Auditor's Office,
*February* 12, 1852.

Sir: In compliance with the request contained in your letter of the 10th instant, I have the honor to enclose herewith a statement of the amount of money which has been paid or advanced to the several lines of steamers

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under contracts with the Navy Department, for the transportation of the United States mails.

I have the honor to be, sir, very respectfully, your obedient servant,

A. O. DAYTON.

Hon. WILLIAM A. GRAHAM,
*Secretary of the Navy.*

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*Statement of the amount of money which has been paid or advanced to each of the lines of steamers under contracts with the Navy Department, for the transportation of the United States mails.*

Line between New York, New Orleans, Havana and Chagres, George Law and associates, contractors. Amount paid, including advances, from September 20, 1848, to January 28, 1852, $941,925 90.

Line between New York and Liverpool, E. K. Collins and others, contractors. Amount paid, including advances, from February 28, 1849, to February 12, 1852, $1,039,500.

Line between Panama and Astoria, W. H. Aspinwall, contractor. Amount paid, including advances, from September 13, 1848, to January 26, 1852, $996,661 90.

A. O. DAYTON.

TREASURY DEPARTMENT, FOURTH AUDITOR'S OFFICE,
*February* 12, 1852.

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TREASURY DEPARTMENT, SECOND COMPTROLLER'S OFFICE,
*February* 16, 1852.

SIR: I have the honor, herewith, to submit a copy of the contract with the Pacific Mail Steamship Company for semi-monthly service from Panama to San Diego, San Francisco, Astoria, &c., entered into on the 13th day of March, 1851; copy of the bond dated 26th of May, 1851; and copy of the deed of trust executed on the 14th of June, 1851; in accordance with your request of 13th instant.

Most respectfully, sir, your obedient servant,

E. J. PHELPS, *Comptroller.*

Hon. W. A. GRAHAM,
*Secretary of the Navy.*

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Whereas, in the act of Congress making appropriations for the naval service of the United States, approved by the President on the 3d of March, 1841, it is provided, "That the Secretary of the Navy and the Postmaster General be authorized, by and with the consent of the contracting parties, respectively, to re-arrange the running of the United States mail steamships, so as to afford more direct despatch between the ports of the United States and the Isthmus of Panama, provided that the Postmaster General shall maintain a semi-monthly mail between Charleston, Savannah, and Havana, during the continuance of the Sloo contract; and also to make the service from Panama to California and Oregon conform with the service



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required by the existing contract on the Atlantic side of the Isthmus, by increasing the trips of the Pacific line to semi-monthly, provided that the said increased service on the Pacific side shall be at a rate not exceeding seventy-five per cent. upon the amount now paid for Pacific service; and to be performed in steamships built according to the specifications and subject to all the clauses of the A. Harris contract, beneficial to the United States. And the Postmaster General is hereby authorized to include in this arrangement such a provision for the transportation of the letter mails only in the steamships of the said contractors, running between New York and Chagres, and as, in his opinion, the public service may demand, not exceeding in the whole the amount herein limited; provided that whenever a better route between the Atlantic and Pacific oceans is established, the Secretary of the Navy and the Postmaster General are authorized to agree with the present contractors for the Pacific line to change the terminus of the additional semi-monthly service, hereby authorized, so as to secure the advantage of increased despatch and economy; and in case the reduction of compensation for the change of service be not agreed on between the parties, the same shall be referred to Congress:"

Now, therefore, in pursuance of said law, it is hereby agreed between the United States of America, acting in this behalf by their Secretary of the Navy and their Postmaster General, of the one part, and the Pacific Mail Steamship Company, acting in this behalf by William H. Aspinwall, their president, assignee of the A. Harris contract, of the other part:

1. That the said company shall, within one year from this date, increase the said Pacific line to six ocean steamships, four of which shall severally be of not less than one thousand tons burden, and the other two of not less than six hundred tons burden each, and all of which shall in all respects conform to the requisitions of said contract, and employ them when said line shall be so increased, in transporting the United States and foreign mails from Panama to San Diego, Monterey, San Francisco, and Astoria in Oregon, touching, if practicable, at Scottsville, near the mouth of the Umpqua river, and at such other intermediate port on the coast of Oregon, or California, as in the opinion of the Postmaster General the public interest may require.

2. That the ships thus provided and in service shall perform a regular semi-monthly service, or delivery of mails at each of the ports aforesaid, leaving Panama and Astoria twice each month, at such time as may be, from time to time, prescribed by the said Secretary of the Navy and Postmaster General, and making the said trips from Panama to Oregon, and from Oregon to Panama, in not more than twenty-five days from port to port, stopping and delivering mails at and into the post offices at all the intermediate ports above mentioned, into the post office at the northern terminus of the route, and to such other contract office or agent at Panama as the Post Office Department shall direct.

3. That for the increased service thus rendered beyond the stipulation of the original contract with the said Harris, the said company shall be paid by the Secretary of the Navy, the sum of one hundred and forty-nine thousand two hundred and fifty dollars ($149,250) per annum—payable quarterly, at the expiration of each quarter, on the last days of March, June, September, and December—beginning on the commencement of such service, after such line is increased as aforesaid, and ending on the last day of September, 1858, being the termination of said A. Harris contract.

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4. That the Postmaster General shall have the right of sending any letter-mails by any of the ships the said company may run between New York and Chagres, at any time during the period aforesaid, without any additional charge to the government.

5. And it is hereby further agreed, that the said company shall receive on board each ship, and suitably accommodate, without charge to the United States government, an agent, to be appointed by the Postmaster General, who shall have charge of the mails to be transported therein, whenever the Postmaster General shall so direct, and that safe and convenient apartments on board said ships shall be provided for said mails and agent by the said company; and, further, that the said company will convey, without additional charge, post office blanks, mail bags, mail locks and keys, and also the special agents of the Post Office Department, on the exhibition of their credentials from the Postmaster General.

6. It is hereby further stipulated and agreed by the said company, that the Postmaster General may, from time to time, make any reasonable changes in the schedule of running, or times of arrival and departures, and may also, from time to time, increase the service—he allowing an increase of compensation within the restrictions imposed by law for the additional service required.

7. It is hereby also stipulated and agreed by the said company, that, in all cases, there is to be a forfeiture or deduction of the pay of a trip when the trip is not run; a forfeiture or deduction of at least one-fourth part of it when the running is so far behind time as to lose connexion with a depending mail, unless not caused by neglect, or want of proper skill, or misconduct; and a forfeiture or deduction of a due proportion of it when a grade of service is rendered inferior to the mode of conveyance above stipulated; and that these forfeitures may be increased into penalties of higher amount, according to the nature or frequency of the failure and the importance of the mail. Also, that fines may be imposed upon the company, unless the delinquency be satisfactorily explained to the Postmaster General in due time, for failing to take from, or deliver the mails into, the post offices at Panama, Astoria, and the intermediate ports above mentioned;—for suffering it to be wet, injured, lost, or destroyed, while on board of their steamships;—for carrying it in a place or manner that exposes it to depredation, loss, or injury, by being wet or otherwise;—for refusing, after demand and tender of proper compensation, not exceeding a due proportion of the pay, to convey a mail by any steamship which the company runs, or is concerned in running, on the route, beyond the number of trips above specified;—or for not arriving at the time set in the schedule—unless not caused by neglect or want of proper skill, or by misconduct—and for setting up or running an express to transmit letters or commercial intelligence in advance of the mail;—or for transporting, knowingly, or after being informed by the department or its agents, any one who shall transport or be engaged in transporting letters or mail-matter, in violation of the laws of the United States;—a penalty of five hundred dollars may be exacted for each offence, and for each article so carried. And it is also understood and agreed, that no payment is to be made under this contract, at any time before Congress shall have made the appropriation necessary for that purpose; but payment shall be made according to such appropriation.

8. The parties hereto reserve the adjustment of the terms for the service on a better route, between the two oceans, until such a route is

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established, and the extent of the change can be ascertained. And it is further expressly stipulated and agreed, that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom, except as a stockholder in said company and according to the provisions of the second section of an act of Congress, passed April 21, 1808, entitled "An act concerning public contracts."

In testimony of all which agreements and stipulations, the said United States have caused this contract to be executed in their behalf, by their said Secretary of the Navy and Postmaster General, and the said Pacific Mail Steamship Company, have hereunto affixed their corporate seal, and caused the same to be attested by the signature of their president, this thirteenth day of March, anno Domini one thousand eight hundred and fifty-one.

WILLIAM A. GRAHAM, [L. S.]
*Secretary of the Navy.*
N. K. HALL, [L. S.]
*Postmaster General.*
WM. H. ASPINWALL, [L. S.]
*President of Pacific Mail Steamship Company.*

Signed, sealed and delivered in presence of—
JOHN ETHERIDGE,
As to William A. Graham, Secretary of the Navy.
FITZ HENRY WARREN,
As to N. K. Hall, Postmaster General.
J. M. CATLIN,
As to W. H. Aspinwall, President.

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This indenture, made and entered into this fourteenth day of June, in the year one thousand eight hundred and fifty-one, between William H. Aspinwall, of the city of New York, of the first part, William H. Leroy, navy agent of the port of New York, of the second part, and the United States of America, by William A. Graham, Secretary of the Navy, of the third part, witnesseth: That whereas, by virtue of an act of Congress approved March 3d, 1847, John Y. Mason, then Secretary of the Navy, on behalf of the United States, did, on the 16th day of November, 1847, enter into a contract with Arnold Harris, for the transportation of the mail from Panama to Astoria, or some other point in the Territory of Oregon, in three steamships, convertible into war steamers, which said contract the said Arnold Harris assigned to the said William H. Aspinwall, by his written assignment; and whereas, by an act of Congress entitled "An act making appropriations for the naval service, for the year ending 30th June, 1849," approved on the 3d August, 1848, the Secretary of the Navy is directed to advance to the contractor for the transportation of the mail between Panama and Astoria, or his assignee, for the purpose of enabling him to finish the steamships contracted for under his said contract, the sum of twenty-five thousand dollars per month on each of said ships, after such ships should have been launched; but the money to be advanced was not to exceed one year's compensation, stipulated for in said contract, to be secured by a lien on said ships, in such manner as the Secretary of the Navy should require, and

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the money so advanced should be faithfully expended in finishing said ships to the satisfaction of the Secretary of the Navy; and whereas, by a proviso to the said act, making appropriation and giving authority, as aforesaid, it is provided that the contractor for the line from Panama to Astoria, as the condition of the advance so to be made, be required to stop and deliver and take mails at San Diego, San Francisco and Monterey, in California, if required so to do by the Secretary of the Navy, with the concurrence of the Postmaster General; and whereas the said Arnold Harris hath entered into a stipulation with the United States, by the Secretary of the Navy, binding the said Arnold Harris to stop and deliver and take mails at San Francisco, San Diego, and Monterey, in California, if required so to do by the Secretary of the Navy, with the concurrence of the Postmaster General; and whereas the said William H. Aspinwall, assignee as aforesaid, under the contract aforesaid, has caused to be launched and put in operation three steamships, called the "California," the "Oregon," and the "Panama," each of which vessels has been accepted by the United States; and whereas, by virtue of said act of Congress of the 3d August, 1848, the Secretary of the Navy did advance to said William H. Aspinwall, assignee as aforesaid, the full sum of money authorized by said act to be advanced to Arnold Harris, or his assignee, for the construction of said steamships; and whereas of the said sum of money so advanced, there now remains due to the United States from said William H. Aspinwall, assignee, a balance to the amount of the just and full sum of one hundred and fifty-nine thousand two hundred dollars, ($159,200) with interest at the rate of six per cent. per annum, from the 3d of March, 1851; and whereas the said William H. Aspinwall is desirous, being so directed by the Secretary of the Navy, to secure the payment to the United States of the said balance, according to the provisions of the act of Congress of the 3d March, 1851, "making appropriations for the naval service for the year ending the 30th June, 1852:" Now this indenture witnesseth, that for and in consideration of the premises and of the sum of one dollar, to him in hand paid before the sealing and delivery of these presents, by the said William H. Le Roy, party of the second part, he, the said William H. Aspinwall, party of the first part, doth bargain and sell and convey, by these presents, the said steamships, to wit, the "California," and "Oregon," and "Panama," to have and to hold to him, the said William H. Le Roy, or to his assigns, upon trust; nevertheless that the said William H. Aspinwall is to retain possession of the said steamships herein sold and conveyed, and to employ them in execution of the contract above referred to; and if, at any time hereafter, the said William H. Aspinwall shall fail to refund to the United States, on the 1st day of October in each year, by a deduction of ten per cent. of the annual compensation agreed to be paid to the said Aspinwall, assignee, &c., by the contract of 16th November, 1847, together with the interest then due, according to the provisions of the act of Congress last aforesaid, then and in that case, the said Le Roy, his executors, administrators, and assigns, being required so to do by the Secretary of the Navy, shall, after advertising for six months in two newspapers published in the city of New York, and one in San Francisco, the time and place of sale, proceed to sell in San Francisco, at public auction, for cash, the said steamships, or such of them as may be necessary for the purpose of this deed, and out of the proceeds of said sale shall pay—first, the expense of executing this trust; secondly, such unsatisfied balances of advances as may be due to the United States as aforesaid, with such interest, at the

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rate of six per cent. per annum, as may be due; and the balance, if any, to the said William H. Aspinwall, or his assigns; and upon the further trust, whenever the whole of the remaining balance of advance of money made by the United States to the said William H. Aspinwall, with interest, as hereinbefore particularly mentioned, shall have been refunded to the United States in the manner provided for in said act of Congress of the 3d March, 1851, or by the payment of money to the United States, or by the price of the said vessels, if the same should be taken into the service of the United States, on valuation, then this lien is to be released.

In testimony whereof, the parties hereunto set their hands and seals the year and day first above written.

WM. H. ASPINWALL, *Assignee.*
WM. H. ASPINWALL, [L. S.]
*President.*
WM. H. LE ROY, [L. S.]
*Navy Agent.*
WILL. A. GRAHAM, [L. S.]
*Secretary of the Navy.*

Signed, sealed, and delivered in presence of—

As to the signatures of Wm. H. Aspinwall and Wm. H. Le Roy,
THEODORE WINTHROP.

As to the signature of Will. A. Graham, Secretary of the Navy,
JNO. ETHERIDGE.

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DISTRICT OF COLUMBIA,
*City and County of Washington,* } *ss:*

On the first day of July, in the year one thousand eight hundred and fifty-one, before me, the subscriber, a commissioner in and for the said district, appointed by the governor of the State of New York to take the acknowledgment and proof of deeds and other writings under seal, to be used or recorded in the said State of New York, and to administer oaths and affirmations, appeared William A. Graham, Secretary of the Navy, and acknowledged that he had executed the foregoing instrument, by the authority and for the uses and purposes therein mentioned; and I certify that the person who made the said acknowledgment is known to me to be the individual described in and who executed the said instrument. Given under my hand and seal.

CHARLES DE SELDING, [L. S.]
*Commissioner for the State of New York.*

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STATE OF NEW YORK,
*Secretary's Office.* }

I hereby certify that Charles De Selding, of the city and county of Washington, and District of Columbia, was, at the time of taking the annexed acknowledgment, a commissioner for the State of New York to take the proof and acknowledgment of deeds and other instruments to be used or recorded in this State, and to administer oaths and affirmations, pursuant to chapter 270, laws of 1850, and that such commissioner was at the time aforesaid

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duly authorized to take the same, and that I have compared the signature of the said commissioner to the certificate subjoined to the annexed instrument, with the signature of such commissioner, deposited in this office, and have also compared the impression of the seal affixed to such certificate with the impression of the seal of such commissioner deposited in this office, and I verily believe the signature and the impression of the seal to the said certificate to be genuine.

Witness my hand and seal of office at the city of Albany, this twelfth day of July, one thousand eight hundred and fifty-one.

A. G. JOHNSON, [L. S.]
*Deputy Secretary of State.*

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CITY AND COUNTY OF NEW YORK, *ss:*

On this fifth day of July, one thousand eight hundred and fifty-one, before me, a commissioner of deeds for said city and county, personally appeared William H. Aspinwall and William Henry Le Roy, both to me well known to be the same persons described in and who executed the foregoing instrument, and severally acknowledged to me that they duly executed the same, for the uses and purposes therein mentioned and expressed.

IRVING PARIS,
*Commissioner of Deeds.*

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REGISTER'S OFFICE,
*City and County of New York,* } *ss:*

I have compared the preceding with an instrument in this office numbered 7340, and filed July 14, 1851, at 22 minutes past ten o'clock a. m., and do certify that the same is a correct copy therefrom, and the whole of said original. I further certify that there is no official seal belonging to said office.

Given under my hand this fifteenth day of July, anno Domini 1851.

CARLISLE NORWOOD,
*Deputy Register.*

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*Know all men by these presents:*

That we, the Pacific Mail Steamship Company, and William H. Aspinwall and Henry Chauncey, of the city of New York, merchants, are held and firmly bound unto the United States of America, in the sum of seventy-five thousand dollars, lawful money of the United States of America, to be paid to the said the United States of America, or their assigns; for which payment well and truly to be made, we bind ourselves, our and each of our successors, heirs, executors and administrators, jointly and severally, firmly by these presents. Sealed with our seals, dated the twenty-sixth day of May, one thousand eight hundred and fifty-one.

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Whereas, on or about the thirteenth day of March, in the year one thousand eight hundred and fifty-one, and by an instrument bearing date on that day, the above bounden, the Pacific Mail Steamship Company, entered into a certain contract with the United States of America, for the conveyance of the mails of the said United States, according to the terms and stipulations of said contract; and in completion of said contract, said Pacific Mail Steamship Company were and are required to give bond to said United States, with sufficient sureties for the faithful performance of said contract, on their part: and whereas the terms, stipulations and engagements in and of the said contract are well known, as well to the above bounden William H. Aspinwall and Henry Chauncey, as to the said Pacific Mail Steamship Company, and these presents are executed upon such requirement, as aforesaid:

Now, the condition of the above obligation is such, that, if the said the Pacific Mail Steamship Company shall in all things well, truly and faithfully observe, perform and fulfil each and every the terms, stipulations and engagements in the said contract contained, on the part of the said company to be observed, performed or fulfilled, according to the true intent and meaning of the said contract, then the above obligation shall be void; otherwise, to be and remain in full force and virtue.

WM. H. ASPINWALL, [L. S.]
*President.*
WM. H. ASPINWALL. [L. S.]
HENRY CHAUNCEY. [L. S.]

Sealed and delivered in the presence of—
CHARLES F. SANFORD.

NEW YORK, *May* 28, 1851.

I hereby certify that the sureties to the above bond are, in my judgment, sufficient to secure the conditions thereof.

J. PRESCOTT HALL,
*U. S. Attorney, Southern District of N. Y.*

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NAVY DEPARTMENT, BUREAU OF CONSTRUCTION, &c.,
*February* 20, 1852.

SIR: The communication from the department desiring the views of Constructor Lenthall on certain points connected with the United States mail steamers, was referred to that gentleman. Accompanying this is his reply, which is not so full as could be desired, he not having seen the vessels until they were fully equipped for service. The bureau would, however, furnish the department with certain extracts from the official reports made by Commodore Perry and Commander Cunningham, appointed to superintend their construction.

"In Sloo's contract it was stipulated that she (referring to the 'Georgia') and they were to be equal in manner of build and materials to the late United States steamer 'Missouri.' This was impracticable, and the 'Georgia' may be considered to be a substantial built vessel, of mixed unseasoned timber, (all the ships of the several contracts have been constructed of mixed unseasoned timber,) similar, but in nowise inferior, to the materials used in the construction of the best merchant ships in the city of New York."

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In another report, dated June 12, 1850, they say: "In the conversion of these vessels to war purposes, considerable alteration would be required; and though they can never be made equal to those steamers originally designed and constructed expressly for the navy, still they can be rendered available in cases of emergency, and without any very great disbursement of money."

In a report dated January 30, 1849, Commodore Perry says: "The deviations from Sloo's contract are, that the materials and fastenings are not equal to those of the 'Missouri,' &c." In order to ascertain the present and precise state and condition of the mail steamers and their availability as war steamers of the first class, the bureau would respectfully recommend that a commission, composed of competent officers and naval constructors, be appointed to make a thorough examination, and report to the Navy Department the result of their labors.

Respectfully, your obedient servant,

CHAS. WM. SKINNER.

Hon. W. A. GRAHAM,
*Secretary of the Navy.*

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NAVY DEPARTMENT, BUREAU OF CONSTRUCTION, &c.,
*February* 18, 1852.

SIR: The letter from the Hon. Secretary of the Navy to the chief of the Bureau of Construction, requests him to direct me to furnish my views as to "whether the steamships employed in the transportation of the foreign mails are in all respects suitable for immediate conversion into steamers for war purposes, capable of carrying the armament appropriate to the class specified in the contract; and if not suitable for such immediate conversion, whether they can be altered to make them efficient war steamers; and if so, what alterations would be necessary to be made, and at what expense, to make them war steamers of the first class."

I would in the first place state that there is some doubt whether a side-wheel steamer can be made into a war steamer of the first class.

The machinery of such a steamer should be placed below the level of common dangers from shot; and to enable her to become a cruiser requires that she should be a perfect sailing vessel in all respects, not only in the power of the sail, but also in its position. The fullness of the extremities should be such that the motions of pitching and scending may be within moderate limits, and they should be able to support the heavy guns at their extremities, which are deemed essential to their armament. It is desirable that they should be fast vessels, but they must be capable of using as well as carrying their armament; and as no other quality can compensate for a deficiency in this, it becomes a primary consideration.

The sharpness of bow of a war steamer is not, however, restricted to such a degree as to prevent a speed but little short of the average of sea-going merchant steamers, which do not require the weights with which they are loaded to be distributed in the same manner. The sharp bow does not rise to the waves so well as the full bow, but it divides them with greater facility. In a mechanical and economical point of view they should possess the necessary strength and power of endurance as well after several years' service as when new, to attain which they must be built of the best materials and fastened in the most thorough manner.

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I know but little of the steamers employed in the transportation of the foreign mails; and those which I have seen, were built under the superintendence of distinguished officers of the navy, and a naval constructor appointed for that purpose.

A few days before the steamers sailed, I was ordered on their final survey; but, in consequence of the highly finished state in which they were, it was scarcely possible to form any just opinion as to the manner in which, and the materials of which, they were built. Finding them ready for sea, and fitted as mail and passenger vessels, I had, under the circumstances, and as far as such an examination permitted, no hesitation in pronouncing them mail-steamers of the first class. This explanation is necessary to show that it is upon a very slight observation that I can give any opinion upon the questions proposed, and by no means to compare with that of the officers who superintended or witnessed their building.

The words, "suitable for immediate conversion into steamers for war purposes," I understand to mean the state in which an actual ship of war would be if temporarily employed in carrying the mail or passengers.

From the superficial examinations I had the opportunity of making, these ships appeared in about the same degree of readiness for immediate conversion into steamers for war purposes as merchant ships, according to their size and speed, are into frigates or other classes of ships of war possessing the advantages common to large vessels of a capacity permitting, if required, the additional materials necessary and the armament and equipments required to be placed on board to make them war-vessels.

The steam-frigates of the first class, of other nations, we find represented as throwing $1_{\frac{8}{0}0}$ lbs. of metal at each discharge, and carrying 12½ square feet of sail per ton of our measurement.

Assuming the largest of these mail vessels to be armed in a similar proportion to their size as the first-class steam-frigates of other nations, with which it is presumed they are to cope, they should throw about 3,050 lbs. of metal—equal in amount to 44 guns of 8 inches—and have a surface of sail not less than that of a ship-of-the-line.

Whether space for such an armament could be found upon their decks, or is necessary, or was contemplated, or whether such a measure of power is to be considered a war steamer of the first class, I presume does not lie within the province of a ship-builder to decide.

The impression left with me is, that to make these vessels into steamers for war purposes the upper deck was too light to bear an armament; and if heavy pivot-guns were to be used, it must be removed. The part of the engine thus left exposed would require protection, and arrangements must be made for the proper accommodation of the officers and men, and the convenient stowage of the stores and provisions. These, together with the other equipments, I think could not be safely estimated at less than from seventy to eighty thousand dollars; in addition to which, will be the destruction of materials, and labor, and highly finished work, that has probably not cost less than one hundred thousand dollars. Such an estimate must of necessity be but an approximation; yet the amount may be exceeded, depending upon what may be deemed necessary by the naval officers when they have possession of the ship; upon the quality of the materials used, and the manner of construction; upon the extent to which beams and knees may be required, if the decks are cut by the machinery; upon the age of the vessel; upon the degree to which she may be strained by the great

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work they have performed, and also in anticipation of that which any unusual or heavy armament of the war storage may cause to be brought upon them. Many of the points above stated it is evident can only be determined by those who built the vessels and have their plans.

In conclusion I would say, that, as I understand being "suitable for immediate conversion," they are not in that state, for much work has to be done to them. Their great size permits almost any addition that may be required to make them into steamers for war purposes; but whether great speed, or powerful armament, or ability to keep at sea for a long time under sail, or a shorter time under steam, are to constitute a war-steamer of the first class, are military questions upon which I have very slight grounds, if any, upon which to base an opinion.

Very respectfully, your obedient servant,

JOHN LENTHALL.

To Commodore SKINNER,
*Chief of the Bureau of Construction, &c.*

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TARRYTOWN, NEW YORK,
*February* 18, 1852.

SIR: In replying to the communication of the Navy Department, of the 10th instant, addressed jointly to Captain William Skiddy and myself, calling for information with respect to the practicability of converting the United States mail steamers into war steamers of the first class, I have thought it advisable that separate reports should be made, as the residence of Captain Skiddy is remote from mine, and much time would be lost in the necessary conferences.

The better to simplify the subject under investigation, I shall divide the inquiry into five distinct questions, and reply to them in their respective order.

It will be well, however, to premise that under no circumstances, and at whatever cost, can a steam vessel, built expressly for the transportation of freight or passengers, be made, in any manner, equal in convenience and efficiency to a vessel originally intended for war purposes; even assuming that the materials of which the respective vessels are constructed are in all respects equal. And for the obvious reason, that in the construction of a vessel of war, from the laying of the keel, every part of the vessel is, in the progress of completion, made subservient to the accommodation and arrangement of the armament, the safekeeping of the munitions, provisions, water, &c., and the berthing of the several classes of officers, and the crew; while in mail or packet steamers, (in this country) no preparations are made for an armament; the ingenuity of the builder being alone taxed to render them extravagantly showy, and best adapted for the accommodation of numerous passengers, and the stowage of freight.

But the timber of which private steamers are built is of far less cost and inferior to that used in the construction of government war vessels, because it is impossible for private builders to procure, at any price, without great loss of time, a sufficiency of live oak, or indeed of *seasoned* timber, of any sort; the supply not being equal to the demand.

The expense of the best materials would not deter them from purchasing

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the best, as it is a peculiarity of the principal American ship-builders to disregard cost in the production of the beautiful ships they are constantly putting afloat.

I now proceed to reply to the first division of the inquiry, as follows:

Question first: "Whether the steamships employed in the transportation of the United States mail, under contract with the Navy Department, or any other steamships employed in the transportation of our foreign mails, are, in all respects, suitable for immediate conversion into steamers for war purposes, capable of carrying the armament or battery appropriate to the class specified in the contract?"

In answer to the foregoing (first) question, I am of opinion that they are *not* "in all respects suitable."

Question second: "And if not suitable for such immediate conversion, whether they could be altered so as to make them efficient war steamers?"

Answer: The following named Atlantic steamers may be converted, by slight alteration, into war steamers of the first class:

*Of Collins's line.* The Atlantic, Pacific, Arctic, and Baltic.

*Of Law's line.* The Ohio, Georgia, and Illinois.

*Of Mortimer Livingston's line.* The Humboldt and Franklin.

*Pacific steamers—of Aspinwall's line.* First class, the Golden Gate. Second class, the Panama, Oregon, California, and Columbia.

The foregoing vessels of the respective contracts are variously constructed as to materials, fastening, strength, and model.

Question third: "And if so, what alterations would be necessary to be made, and at what expense, to make them war steamers of the first class?"

Answer: If these vessels had been originally constructed conformably to the *spirit* (though it was not called for by the letter) of the contracts, as they should have been, and all English mail steamers now are, *in anticipation of their possible conversion into war vessels*, the cost of converting them would be much less.

Most of them were completed before I was ordered to their supervision: but I lost no time, after entering upon the duty, in calling the attention of the contractors to this important consideration, an observance of which would not have added more than one per cent. upon the cost of construction.

In altering these vessels so as to make them available for war purposes, the most simple, expeditious, and economical plan would be to razee them, or cut off their upper decks and cabins forward and abaft the wheel-houses: not by tearing them to pieces and defacing the costly ornamental work, which, though of no value to the government, still need not be destroyed.

The razeeing should be effected by sawing the top timbers, and cutting off by sections the whole of the upper deck, excepting the space between the wheel-houses, thus leaving the greater part of the main deck exposed and for the accommodation of the armament, and enough of the sides above that deck to answer for bulwarks and side ports.

Below, it would only be necessary to remove the staterooms not wanted for the accommodation of the officers, and convert the after-hold and fore and main orlops into magazines, store-rooms, shot and shell lockers, &c., &c.

According to my calculation, the cost of the conversion of either of the before mentioned vessels, exclusive of armaments, repair of machinery and ordinary repair, would not, or certainly *ought* not exceed, for steamers of

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the first class, $20,000, and for those of the second class, $15,000; and it could be readily done for this at any of our navy yards, provided that *useless* alterations were not made.

It should be taken into view that those mail steamers, if called into service as war vessels, would be considered as forming an auxiliary force to the regularly constructed ships, and hence the impolicy of expending much money on them. The requisites of sound hulls and powerful engines, with efficient armaments, should alone be considered, leaving superfluous ornament out of the question.

The armaments of the respective vessels would, of course, be a separate cost; and to arrange the guns on the upper deck, it would only be required to close up three or four of the hatches or sky-lights; to strengthen the deck by additional beams and stanchions; to cut ports, and construct the pivot and other carriages; probably it might be desirable to shift the capstan and cables.

With respect to the description and weight of the respective armaments, I am clearly of opinion that the first-class steamers already named could easily carry each *four* 10-inch Paixhan guns on pivots, two forward and two aft, of the weight of those in the Mississippi; *ten* 8-inch Paixhans, as side guns, ditto.

The *second-class* steamers could with equal ease carry each *two* 8-inch Paixhans on pivots, one forward and one aft, and *six* 6-inch ditto, as side guns.

With the additional strengthening recommended, I am perfectly satisfied that the armaments suggested would not, in the least, incommode the vessels. Indeed, the weight of armament would be actually less than that which would be taken away by the removal of the upper decks and cabins, and the miscellaneous articles usually stowed on one or the other of two decks—such, for instance, as ice, of which not less than forty tons is generally packed in one mass; nor would the munitions and provisions required for the war vessel be of greater weight than the goods now carried as freight, saying nothing of the provisions and stores carried by the steamers for an average of 150 to 250 souls, including crew and passengers.

It may again be remarked, that steamers thus brought into service would be far inferior to regularly constructed and appointed war vessels; yet in the general operations of a maritime war, they would render good service, and especially would they be useful, from their great speed, a despatch vessels, and for the transportation of troops, always being capable of attack and defence, and of overhauling or escaping from an enemy.

Question fifth: "Also, whether all the vessels stipulated under said contracts to be built, have been so built, or what portion of them?"

Answer: Of Collins's line, the Atlantic, Pacific, Arctic, and Baltic have been built, inspected, and received by the Navy Department. The fifth ship of this contract has not been commenced.

Of A. G. Sloo's contract, assigned to George Law and associates, the Ohio and Georgia have been built, inspected, and accepted by the Navy Department. The three other vessels stipulated for in the contract; have not been built according to contract but the Illinois, a first-class steamer, and the Falcon, one of the second class, have been offered, inspected, and temporarily accepted by the Navy Department.

Of Arnold Harris's contract, assigned to Wm. H. Aspinwall and associates, the three vessels stipulated for have been built, inspected, and accept-

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ed by the Navy Department; and two others, the Golden Gate, a first-class vessel, and the Columbia, one of the second class, have also been inspected, and temporarily received by the Navy Department.

With regard to the mode of construction of the above mentioned steamers, I beg to refer to a report addressed by me to the department, bearing date the 30th of January, 1849.

The notes appended, and marked A, are submitted in further explanation of the cost, relative steam power, &c., &c., of ocean steamers.

With great respect, I have the honor to be, your most obedient servant,

M. C. PERRY.

The Hon. W. A. GRAHAM,
*Secretary of the Navy.*

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A.

*Notes appended to report upon mail steamers, bearing date 18th February, 1852.*

The following notes, though not claiming to be minutely correct, are nevertheless sufficiently accurate to answer as a basis upon which to estimate the general cost, and relative steam power, to tonnage, of side-wheel ocean steamers, constructed in the best manner at the private building yards in New York.

Estimated cost of the hull, spars, and ordinary joiner's work of an ocean side-wheel steamer, from 2,000 to 3,000* tons burden, built in the best manner of mixed timber, double-trussed with iron-plated bars, and otherwise well fastened, say $70 per ton, custom-house measurement. Estimated cost of double marine side-wheel engines with four iron boilers, wrought-iron shafts, iron wheels, and all other things complete for steaming, and finished in the best manner, the whole guarantied, say $250 per nominal horse-power, English rule.

Best practical relative power of engines to tonnage for ocean steamers, say *one* nominal horse-power, per English rule, to every *three* tons of tonnage of the steamer, custom-house measurement.

Estimated cost of rigging, sails, cables, anchors, boats, galleys, and every article of outfit and equipment, excepting ornamental work, armament, provisions and fuel, say $12 per ton.

Thus a steamer of 2,000 tons would cost—

| | |
|---|---|
| For construction of hull | $140,000 |
| For engines, 666 horse-power, per English rate, at $250 per horse-power | 166,500 |
| For outfit, equipment, &c., at $12 per ton | 24,000 |
| Whole cost of vessel ready for sea, excepting cost of armament, provisions and fuel | 330,500 |

* It is generally thought that an ocean steamer of 3,000 tons is of the maximum dimensions for safety and efficiency, whether for war or commercial purposes.

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A steamer of 3,000 tons would cost as follows:

| | |
|---|---|
| For construction of hull, 3,000 tons, at $70 per ton | $210,000 |
| For cost of engines, 1,000 nominal horse-power, at $250 per horse-power | 250,000 |
| For cost of outfit and equipment, at $12 per ton | 36,000 |
| Whole cost of steamer ready for sea, exclusive of armament, provisions and fuel | 496,000 |

Steamers built of seasoned live oak, at the private yards, would cost about twenty-five per cent. more in the construction of their hull, only, or about $88 per ton.

Steamers can be constructed at our navy-yards of materials similar to those used in the private yards, and with similar fastening, at the same cost, provided the workmen are judiciously distributed, kept constantly employed in the progress of construction in their own especial department, and are held individually responsible for their proper proportion of work. Hence there would be no economy in contracting for the construction of steamers in private yards. Vessels built at the navy-yards are constructed, in almost every instance, of live oak and other seasoned timber, collected many years ago, and are heavily fastened with copper; consequently, the expense of construction is very much enhanced, especially as all expenses of docking and preserving the timber are charged to it when it goes into the ship.

The deterioration of ocean mail steamers, growing out of wear and tear and gradual decay, notwithstanding every possible repair, may be estimated at five per cent. per annum for live oak ships—perhaps a trifle less.

The deterioration in the value of the engines and boilers would depend very much upon the work they are required to perform. When *overworked*, as many of them now are, in the strife for superiority in speed, the wear and tear is very great, and especially upon the boilers, which are generally the first of the principal parts of the machinery to require replacing.

The foregoing estimated prices would give a good profit to the builders and engine-makers, and are higher, as the undersigned believes, than have ever yet been paid in this country for private steamers, always excepting the cost of ornamental work and costly furniture.

The cost of building is about the same in England, and the price of best marine engines, with iron boilers, from forty-five to fifty pounds sterling per nominal horse-power, English rule.

Respectfully submitted.

M. C. PERRY.

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NEW YORK, *July* 18, 1852.

SIR: I herewith acknowledge your communication of the 10th instant, to Commodore M. C. Perry and myself, relative to United States mail steamers built under contracts with the Navy Department, and others carrying the United States mails.

In reply I will commence with the first-class ships, which are the "Atlantic," "Pacific," "Baltic," and "Arctic," of Collins's Liverpool line; the "Franklin" and "Humboldt" of Mortimer Livingston's Havre line.

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These ships, although equal in strength, probably, to any steamships afloat, are not suitable for *immediate* war purposes, but can be made efficient in four or six weeks, capable of carrying the armament or battery of a first-class frigate—say four ten-inch guns and twelve eight-inch guns. These alterations would consist of the removal of the deck-houses, spar or upper deck, for wardand abaft the paddle-wheel boxes, fitting the after and forward bulwarks in sections, cutting port-holes, fitting hammock cloths or nettings, putting in extra beams and knees and stanchions, moving the windlass below, building magazines, shell-rooms, officers' rooms, &c., &c. The cost of all these alterations and fixtures would not exceed ($15,000 or $20,000) twenty thousand dollars each ship. These ships would then be relieved of about one hundred and fifty tons weight, or nearly double the weight of guns and carriages, with less resistance to water and wind, adding an increase to their already great speed.

The fifth ship under Mr. Collins's contract with the department has not been built.

The "Georgia" and "Ohio," of Law and Sloo's line, although inferior ships to the above six, are, with the above alterations, capable of carrying the four ten-inch and ten eight-inch guns. The alterations required would be similar to those above, with an expenditure of about the same amount, $15,000. The three other steamers called for in this contract have not been built.

The "Washington" and "Hermann," could also be made efficient as these last mentioned ships, carrying the same armament, by removing the houses and spar-deck, and in the same space of time, and at same cost, $15,000; but their speed would be less, having smaller propelling power.

Mr. W. H. Aspinwall's four ships of the second class, "California," "Oregon," "Panama," and "Columbia," all built according to contract with the department, have been and are now constantly employed in carrying the United States mails from Panama, San Francisco, and Oregon. These ships are all capable of being converted into efficient war steamers of the second class, carrying two eight-inch guns, and six thirty-two pound broadside guns.

The steamer "Golden Gate," of Mr. Aspinwall's Pacific line, and the "Illinois," of Mr. George Law's Chagres line, not built under the contract with government, may be considered, with the above alterations, first-class frigates, capable of carrying the same armament as the "Atlantic" and others of that class, and the "Tennessee," of Aspinwall's Pacific line, a second-class steamer.

All these ships carry much more weight above the main-deck than that of the armament, and the alterations required on each would differ very little.

The cost of altering the second-class steamers would be about ten thousand dollars each.

I remain, your obedient servant,

WM. SKIDDEY.

Hon. W. A. GRAHAM, *Secretary of the Navy.*

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No. 3.

TREASURY DEPARTMENT,
*Fourth Auditor's Office, March* 12, 1852.

SIR: I have the honor to enclose a statement, containing the information in regard to the accounts of the contractors for the transportation of the

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United States mails between New York and California, which was called for in your letter of the 6th instant, so far as it can be gathered from the files of this office. The call being confined to payments made under the *contracts for service*, the statement does not include the advance made by order of Congress to the contractors, to assist in the construction of the vessels to be employed, which was limited to the amount of one year's compensation stipulated for in the original contract, and, by an act of March 3, 1851, is required to be returned to the government in annual instalments.

The names of the vessels by which the mails have been transported on the route referred to, do not all appear upon the papers on file in this office, but I presume that they can be readily furnished by the Postmaster General, together with the amount of service rendered by the said vessels, respectively.

I have the honor to be, sir, very respectfully, your obedient servant,

A. O. DAYTON.

To the Hon. W. A. GRAHAM,
*Secretary of the Navy.*

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*Statement showing the amount which has been paid, and to whom, under all the contracts made with the Navy Department for the transportation of the mails between New York and Astoria, by steamships, on the Atlantic and Pacific oceans; the gross amount of money which has been paid under each service; the date of commencement of service under each contract, and in what sums and at what periods paid.*

LINE BETWEEN NEW YORK AND CHAGRES.

| | |
|---|---|
| Paid to George Law and associates, October 22, 1850 | $350,278 00 |
| Do.....do.....March 9, 1851 | 72,500 00 |
| Do.....do.....April 26, 1851 | 70,147 90 |
| Do.....do.....July 14, 1851 | 72,500 00 |
| Do.....do.....October 8, 1851 | 72,500 00 |
| Do.....do.....January 28, 1852 | 72,000 00 |
| Gross amount | 709,925 90 |
| Commencement of service of this line | Dec. 1, 1848 |

According to the terms of the contract, the payments are to be made quarter-yearly, at the rate of $290,000 per annum, provided the service is fully performed.



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LINE FROM PANAMA TO ASTORIA.

| | | |
|---|---|---|
| Paid W. H. Aspinwall, May 8, 1850 | | $262,569 45 |
| Do | July 30, 1850 | 45,604 17 |
| Do | October 9, 1850 | 45,604 17 |
| Do | January 14, 1851 | 45,604 17 |
| Do | April 26, 1851 | 43,334 28 |
| Do | May 14, 1851 | 165,142 50 |
| Do | June 28, 1851 | 2,138 57 |
| Do | July 28, 1851 | 76,833 99 |
| Do | October 1, 1851 | 97,487 83 |
| Do | January 9, 1852 | 86,762 50 |
| Do | January 26, 1852 | 26,080 27 |
| Gross amount | | 897,162 00 |
| First contract dated | | Nov. 16, 1847 |
| Second contract dated | | Mar. 13, 1851 |
| Commencement of service under the former contract | | Oct. 1, 1848 |
| Do | do latter contract | Mar. 13, 1851 |

The payments under these contracts are to be made quarter-yearly, at the rate of $199,000 per annum under the former, and of $149,250 under the latter, provided the service is fully performed.

TREASURY DEPARTMENT,
*Fourth Auditor's Office, March* 12, 1852.

A. O. DAYTON.

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No. 4.

NEW YORK, *March* 17, 1851.

SIR: About two months since I made a proposal (in the form of a memorial, which was presented to the United States Senate) for the semi-monthly transportation of the mails between New York and San Francisco, and all necessary intermediate points.

The terms of the proposal are embraced in the memorial, a copy of which I herewith enclose, and which I particularly request you to peruse.

Since this proposal was made, I have visited Nicaragua for the purpose of putting a line in operation across that State, and I am now prepared to say:

1st. That, in the month of July next, I shall have in complete operation a *semi-monthly line* between New York and San Francisco, *via Nicaragua*.

2d. The ocean-steamers which will compose this line, on the Atlantic and Pacific oceans, will be of the first and best class and quality.

3d. The transit across the Isthmus of Nicaragua will be made as follows: *First.* In steamboats built for the purpose, capable of carrying 300 passengers each, from the port of San Juan de Nicaragua to the lake of Nicaragua, 90 miles. *Second.* Across the lake, in steamboats, to the river Lagos, on the western shore, (40 miles;) thence to the Pacific, (12 miles and 30 chains,) by a good road, built for the purpose, to San Juan del Sur, on the Pacific.

4th. The whole distance between New York and San Francisco will be accomplished in twenty-five days, at the farthest; and to perform the dis-

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tance within this time, I am willing to bind myself with any amount of penalty.

5th. To the above statement I am willing to pledge my reputation: and it is well known to those who know me, (and among those is the present Secretary of State,) that I will make no such pledge unless certain of its fulfilment.

As a law was passed at the last session of Congress, (with the details of which I am not familiar,) on the subject of the mail-service between New York and California—and under which you will probably be called on to act—I supposed this a fit occasion to make the statement contained in this letter.

Very respectfully, your obedient servant,

C. VANDERBILT.
By D. B. ALLEN.

P. S.—A copy of the above I have forwarded to the Postmaster General.

Hon. WILLIAM A. GRAHAM,
*Secretary of the Navy.*

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*To the Senate and House of Representatives in Congress assembled:*

Your memorialist, Cornelius Vanderbilt, of the city of New York, respectfully represents that he has, for *thirty years* last past, been extensively engaged in the business of building and running steam-vessels, and has, as he believes, an unusual experience in that business. Your memorialist has observed with great satisfaction the encouragement and aid which the general government has for some time past been extending to private enterprise in the construction of steamships, on condition that the government may, in time of hostilities with any other nation, appropriate such ships to its service; and if it be the object of the government still further to enlarge its steam-navy, and for this purpose to avail itself further of private enterprise, your memorialist has a plan to submit, by the adoption of which, as he believes, this object can be accomplished without the government advancing one dollar. His plan is as follows:

1. He proposes to build and completely equip, at his own proper cost, six steamships of the first class, and of the first quality in all respects, and which shall be unsurpassed by any steamships now afloat.

2. The said ships to be each from one to two thousand tons burden, which size your memorialist believes best adapted to war purposes.

3. These ships are to run, in part, between New York and San Juan de Nicaragua, or Grey Town, and intermediate points if necessary, and in part between San Francisco and the terminus of the transit route of the "American Atlantic and Pacific Ship Canal Company," on the Pacific ocean, semi-monthly, which transit route will be opened and its terminus designated probably within six months.

4. All these ships, or either of them, the government shall have the right to call into its own service in case of war, actual or threatened, on payment of the actual cost.

5. In consideration of this right being granted, the government shall,

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whenever it can be done, consistently with the public interest, transport all the public mails designed for the above named points, on the said ships.

6. Until the transportation of the mails shall be intrusted to your memorialist the government is to pay nothing; but, dating from the time the transportation may commence, the government shall pay to your memorialist the sum of $30,000 per annum for the service of each ship while he continues to transport the mail, and no longer.

Your honorable bodies will not fail to observe that your memorialist does not ask one dollar from the public treasury, except as a reasonable compensation for services when performed. And whether the compensation thus demanded (in case of services rendered) is or is not reasonable, may perhaps be best determined by comparing the total amount thereof with that which the government now pays for similar service.

The advantages secured to the government by the plan which your memorialist has the honor to submit, are:

1. The transportation of its mails (whenever the public interest requires it) at a cost barely remunerative.

2. The right to call into the naval service six first-class ships in case of war, for the construction and maintenance of which it will advance nothing, except in the event of appropriation, and then the actual cost only.

3. In case of the loss of either of these ships, the government will lose nothing, as it will have no property in them, all the expense of building them, and all the expense of maintaining them, being borne by your memorialist.

Your memorialist therefore commends to your attention the plan above submitted, and prays your honorable bodies to adopt the same, and, by a proper act, to direct the proper officer of the government to enter into a contract with your memorialist; and your memorialist will ever pray, &c.

C. VANDERBILT.

NEW YORK, *December*, 1850.

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NAVY DEPARTMENT, *March* 19, 1851.

SIR: In reply to your communication of the 17th instant, you are informed that the department is not authorized to receive proposals for mail service. An extension of mail service has been authorized by Congress, but is confined to existing contracts.

Transmitted herewith, for your information, is a copy of the act making appropriations for the naval service for the year ending 30th June, 1852.

I am, respectfully, your obedient servant,

WILL. A. GRAHAM.

C. VANDERBILT, Esq., *New York.*

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No. 5.

CHAGRES LINE.

NEW YORK, *January* 24, 1850.

SIR: In obedience to your instructions of the 18th instant, we have inspected the mail steamer "Georgia," built under contract with A. G. Sloo, esq., authorized by the act of Congress of 3d March, 1847, for the mail

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service therein contemplated, and have the honor to report that in our opinion she has been built in conformity with the requirements of the act of Congress above referred to; although not in acordance with every particular stipulation of the contract, as has already been made known to the department by the superintendent in charge. She is constructed of suitable dimensions, build, and finish, to conform with the contract for carrying the mails on her destined route; and with the preparations and additions of suitable war appointments, she could be easily converted into a war steamer of the first class.

The "Georgia" is now ready to receive on board, the officers of the navy provided for by the fourth section of the act above indicated.

With great respect, we have the honor to be, your most obedient servants,

M. C. PERRY.
J. McKEEVER.
S. HARTT, *N. C.*

The Hon. Wm. Ballard Preston,
*Secretary of the Navy, Washington.*

I concur in this report as to her ability to carry the mail on her destined route.

JOHN LENTHALL.

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Navy Department, *January* 26, 1850.

Sir: The inspection has been held, and the government accepts of the "Georgia" for the purposes named in the contract. Enclosed herewith is a copy of the report of the inspecting officers.

WM. BALLARD PRESTON.

Marshall O. Roberts, Esq.,
*Agent U. S. Mail Steamship Company, New York.*

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Navy Yard, New York,
*January* 21, 1851.

Sir: In accordance with your order of the 16th instant, we have examined and inspected the mail steamship Ohio, built under the contract with A. G. Sloo, authorized by act of Congress of the 3d March, 1847, and respectfully beg leave to make the following report:

The Ohio commenced running on or about the month of September, 1849, and from that time to the present has made one trip every month to New Orleans and back, touching at various places authorized by the act of Congress above referred to. Although constantly running, she seems very little strained, and has all the appearance of being as strong as when first completed. From our present examination, and the best information we could obtain in regard to the manner of construction and materials used, we have every reason to believe that she was built in conformity with the above referred to act, and with proper additions and alterations could be converted into a war steamer.

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She will be ready to resume her duties on or about the 26th instant, and has already attached to her the proper complement of navy officers.

We have the honor to be, sir, very respectfully, your obedient servants,

W. D. SALTER,
*Commandant.*
CHAS. H. BELL,
*Commander.*
WM. SKIDDY,
*Naval Constructor.*

Hon. W. A. GRAHAM, *Secretary of the Navy.*

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NEW YORK, *January* 16, 1851.

SIR: The United States mail steamship Ohio was raised out of the water on the sectional dock last Saturday, the 11th instant, without difficulty.

I examined her thoroughly, and could not find any indication of her being strained in the least; every butt and joint was as perfect as when first put together. The lower part of the gripe on the stern was off, and some trifling chafe under the larboard side of the bottom amidships, received probably on her first voyage, while on shore. These injuries, however, could not have caused any additional leakage during the late gale, and I am satisfied that the principal leakage arose from the inefficient fastenings of the discharge-valves on the side. The ship rolling in the trough of a heavy sea, at an angle of thirty degrees each way; with two or three feet water rolling over the keelsons, washing coals, cinders, and ashes up in the wings, might easily alarm persons unaccustomed to sea casualties; had the ship been either head to the sea or before it, probably no such excitement would have been experienced.

The most surprising circumstance attending this ship, is the state of her bottom; after running so long a time without copper, she is entirely free from worms, with the exception of one piece of yellow pine in the rudder, about one foot square.

The plank on the bottom are all Maryland white oak, and in good order.

The ship has been thoroughly caulked and sheathed with copper. She is now afloat and getting on board a new piston, and as soon as the repairs on the engines are completed, will resume her place on the line.

The situation the Ohio was placed in, and subsequent examinations, have fully proved her strength and capability of performing the duties she was constructed for.

I remain your obedient servant,

WM. SKIDDY.

Received and forwarded by your obedient servant,

M. C. PERRY.

Hon. WM. A. GRAHAM,
*Secretary United States Navy.*

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NAVY DEPARTMENT,
*January* 24, 1851.

GENTLEMEN: An inspection has been held upon the steamship "Ohio," built under the contract with A. G. Sloo, authorized by the act of Con-

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gress of the 3d of March, 1847, and the government hereby accepts the "Ohio" for the purposes named in the contract.

Transmitted herewith, for your information, is a copy of the report of the inspecting officers, dated the 26th inst.

I am, respectfully, your obedient servant,

WILL. A. GRAHAM.

Messrs. GEORGE LAW, MARSHALL O. ROBERTS, and BOWES R. McILVAINE, assignees of A. G. SLOO, New York.

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POST OFFICE DEPARTMENT,
*Contract Office, April* 30, 1851.

SIR: In answer to your letter of the 28th inst., I am directed by the Postmaster General to say that he has no objection to your steamships sailing from New York on Monday following, when the regular day of departure falls on Sunday, provided the proper connexion is made at Chagres, &c.; but that he cannot give his consent to a change to leave New York on Saturday, or any day *prior* to the regular time. As your company now have the consent of the Navy and Post Office Departments to run your steamers direct, without touching at Charleston and Savannah, it is supposed you will have no difficulty in making the proper connexion, notwithstanding your time of sailing may be postponed one day.

Please advise the department of the course you shall adopt.

S. D. JACOBS.

MARSHALL O. ROBERTS,
*Agent U. S. Mail Steamship Company, New York City.*

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NAVY DEPARTMENT,
*May* 3, 1851.

SIR: The Postmaster General has furnished me a copy of a communication, addressed to you from that department on the 30th ultimo, proposing that your mail steamships shall leave New York on Monday whenever the regular day of sailing shall fall on Sunday; provided the proper connexion shall be made at Chagres.

Since you are exempted from touching at Charleston and Savannah, and now proceed direct to Havana, I have no doubt you can readily do this, and shall be pleased to be informed that you assent to the proposition.

I am, very respectfully, your obedient servant,

WILL. A. GRAHAM.

MARSHALL O. ROBERTS, Esq., *New York.*

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OFFICE OF THE U. S. MAIL STEAMSHIP COMPANY,
*New York, May* 7, 1851.

SIR: I have had the honor to receive your favor of the 3d inst., referring to, and concurring in, the proposition of the Postmaster General, that the mail ships of this company shall leave New York on Monday, whenever the

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regular day of sailing shall fall on Sunday, provided the proper connexion shall be made at Chagres.

I do not doubt, since the change of route, that the connexion can be readily made; and I am therefore authorized to signify the company's assent to the proposition.

I have the honor to be, &c.,

M. O. ROBERTS.

Hon. Wm. A. Graham,
*Secretary of the Navy.*

---

New York, *September* 22, 1851.

Sir: In obedience to your order of the 23d ult., we have inspected the mail steamer Illinois, and have the honor to report that, so far as we have been able to examine (in her present state of entire completion for sea) her mode of construction, and the materials of which she has been built, we are of opinion that in the essentials of strength, buoyancy and speed, she is quite equal to others of the same line already favorably reported on, and in respect to her engines and general arrangements she is superior.

We are further of opinion that this vessel is capable, with the requisite alterations and appointments, of being easily* converted into a war steamer of the first class.

The Illinois is now ready to receive on board the officers of the navy to be assigned to her under the contract.

A detailed description of the Illinois will be forwarded to the department as soon as it can be obtained from the proprietors.

We have the honor to be, most respectfully, your obedient servants,

M. C. PERRY,
——— ———,
——— ———,

To the Hon. Wm. A. Graham,
*Secretary of the Navy, &c.*

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New York, *October* 2, 1851.

Sir: I have the honor of transmitting, herewith, the papers referred to in the report of the inspection of the new mail steamer Illinois.

Most respectfully, your obedient servant,

M. C. PERRY.

To the Hon. Wm. A. Graham,
*Secretary of the Navy, Washington, D. C.*

---

STEAMSHIP ILLINOIS.

| | | | |
|---|---|---|---|
| Length on deck | 276 | feet | 9 inches. |
| Breadth of beam | 40 | " | 3 " |
| Depth | 29 | " | 6 " |
| | 2,101 | tons. | |

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* We concur in the above report all except in the term "easily."

W. D. SALTER,
B. F. DELANO.

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Lower part of frame, white oak; top live oak, locust and cedar. All the principal pieces live oak. Stern, and all connected with it, live oak. Solid floor, fore and aft, securely fastened and caulked.

Floor timbers side 17 inches, and mould in centre 20 inches.

Frame diminishing to 7½ inches at top height; side 10 inches.

Keel of white oak, 18 inches square.

Two thick garboard streaks each side of keel, secured to hull and centre keelson, 18 inches square, white oak.

Ten side keelsons 14×14 inches, yellow pine, square fastened, double diagonal strapped heavy iron.

Ten bilge streaks, each side 12×14 inches, yellow pine, square fastened.

Ceiling above bilge streaks 7 inches thick, yellow pine, square fastened.

Clamps and ceiling between decks 7½ inches thick, yellow pine, square fastened.

Three streaks above main deck, 6×10.

Heavy deck frames of yellow pine, secured with lodged and hanging knees.

Wales 6 inches thick, yellow pine.

Bottom 4 inches thick, yellow pine.

Main rail 6×14 inches.

Copper-fastened to deep-load line—say 20 feet.

All on the outside square fastened with copper and treenails.

Materials, first quality.

Coppered with heavy sheathing copper, to 17 feet fore and aft.

*Spars.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Fore-mast | 80 | feet, | diameter | 23 | inches, | mast-head | 12 | feet. |
| Main " | 75 | " | " | 22 | " | " | 12 | " |
| Mizen " | 77 | " | " | 18 | " | " | 9 | " |
| Fore-top-mast | 35 | " | pole | 14 | feet, | diameter | 12 | inches. |
| Main " " | 36 | " | " | 14 | " | " | 10 | " |
| Mizen " " | 25 | " | " | 10 | " | " | 8 | " |
| Fore-yard | 62 | " | arms | 5 | " | " | 15 | " |
| Fore-top-sail | 46 | " | " | 4 | " | " | 11 | " |
| Fore-gaff | 30 | " | pole | 6 | " | " | 8 | " |
| Main " | 28 | " | " | 6 | " | " | 7½ | " |
| Mizen " | 20 | " | " | 4 | " | " | 6½ | " |
| Spanker-boom | 29 | " | " | 2 | " | " | 7½ | " |

Main-mast steps on berth-deck.

NEW YORK, *September* 26, 1851.

SMITH & DIMON.

Received October 1st, and forwarded to the Navy Department.

M. C. PERRY.

*Engines of steamship Illinois.*

Two oscillating engines, eighty-five inches diameter of cylinder, nine feet stroke of piston—seven hundred and eight cubic feet in both cylinders; seven hundred horse-power, according to the English standard when working seven pounds of steam; capable of working fourteen hundred horse-

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power. Two air-pumps, fifty-one inches diameter, four and a half feet stroke—condenses three-fourths the capacity of the cylinders; steam-pipes twenty-eight inches in diameter; steam passages in the slide-valves to cylinders three hundred and ten cubic inches; steam and exhaust pipes, each twenty inches in diameter; discharge-pipe twenty inches in diameter; trunnions to cylinder thirty and a half inches in diameter. Stop-valves, feed-valves, foot-valves and valve-seats, are all composition: all the water and steam-pipes are of copper; four force-pumps to supply the boilers, each eight inches diameter, three feet stroke; four bilge-pumps, each seven inches in diameter and three feet stroke; two hand-pumps, six inches in diameter, and fifteen-inch stroke; two Worthington's pumps, with one small boiler to work them; water-wheel shafts nineteen and a half inches in diameter, by twenty-four inches in length of journal, each; piston and connecting rod twelve and a half inches; crank-pin twelve inches in diameter, eighteen inches long between the cranks; cranks, water-wheel shafts, and valve-wheels, all of wrought iron. Water-wheels, thirty-three and a half feet diameter, three rows of arms in each wheel, and twenty-eight arms in each row—arms each five inches by one and a quarter inch; three cast-iron flanges to each wheel, eight feet each in diameter; three wrought-iron rims to each wheel; fifty-six buckets to each wheel, ten and a half feet long, fifteen inches wide, by three and a half inches thick; engine frame of wrought iron; four boilers, sixteen feet three inches in width, thirteen feet high, and twelve feet long; five furnaces in each boiler, two feet seven inches each wide, by seven feet in length: three hundred and fifteen return-tubes in each boiler, each tube three inches and a quarter by eight and a half feet long, of malleable iron. The four boilers contain eleven thousand and four hundred (11,400) feet of fire and flue surface; steam-room in boilers seven times the capacity of cylinders; weight of boilers two hundred and forty-one tons; weight of engine six hundred tons; weight of water in boilers one hundred and twenty tons; two smoke-pipes, six and a half feet in diameter each, and forty-two feet in length above the main deck; two of the boilers placed forward of the engine and two of them abaft.

JOSEPH N. SCOTT,
*Superintendent Engineer U. S. Mail Steamship Company.*

NEW YORK, *September* 25, 1851.

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NAVY DEPARTMENT, *September* 30, 1851

GENTLEMEN: An inspection has been held upon the steamship "Illinois," built under the contract with A. G. Sloo, authorized by the act of Congress of the 3d of March, 1847, and the government hereby accepts the "Illinois" for the purposes named in the contract.

Transmitted herewith, for your information, is a copy of the report of the inspecting officers, dated the 22d instant.

Very respectfully, your obedient servant,
WILL. A. GRAHAM.

To Messrs. GEORGE LAW AND ASSOCIATES,
*Assignees of A. G. Sloo, New York.*

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No. 6.

PACIFIC LINE.

NAVY DEPARTMENT,
*March* 3, 1849.

SIR: I have received your letter of the 23d day of February, ult., calling my attention to that section of the naval appropriation act, approved on the 3d day of August, 1848, which provides that pay for the mail service under the contract with Arnold Harris should commence on the first day of October last, and inquiring whether the character of the steamships, and the time when they were ready for service, are such as to entitle you to pay from that date.

You are aware that in executing the act of March 3, 1847, I regarded my power to make compensation as limited to the commencement of the mail service from Panama to the northern terminus of the route.

The section of the act of Congress to which you call my attention, was passed with a view of prescribing a different rule for the commencement of your compensation. That rule is, that compensation was not to commence until the first of October, 1848; but subject to this restriction, compensation on the contract was to commence from the time the ships to be employed on the line should be ready for service and placed at the disposal of the United States. At the date of this act, your ships were in course of construction and completion in New York, and your contract necessarily contemplated that the three ships should not leave Panama, on the mail service, at the same time. On the 19th of September, 1848, you apprized me that the California was ready for the service, and placed her at the disposal of the government. She was detained, and sailed on the 3d of October. The two other steamers were, in like manner, placed at the disposal of the government, and have sailed to take their places on the line, and I have no doubt, notwithstanding the accident to the Panama, the service will be commenced and duly performed on the line according to the trips stipulated in the contract. On this state of facts I have conversed with the Attorney General, and he is of opinion that your compensation ought to commence on the first day of October, according to the terms of the act of August, 1848. I concur in that opinion.

I am, very respectfully, your obedient servant,

J. Y. MASON.

WM. H. ASPINWALL, Esq., *New York*.

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NAVY DEPARTMENT,
*January* 2, 1850.

SIR: Notice is hereby given to you, that after the expiration of six months from the 10th of January, 1850, the mail service to be performed by the Panama and Oregon line of steamers is required to be performed as follows, viz:

From Panama to Nasqually, on Puget's sound, in the Territory of Oregon, once a month each way, to stop and deliver and take mails at San Diego, San Francisco, Monterey, and Astoria.

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The departure of the steamers from Panama must be subject to, and absolutely dependent on, the receipt of and connexion with the principal mail or mails despatched from the United States, under the direction of the Post Office Department, for transportation across the isthmus of Panama to California and Oregon.

The modifications of the contract, acceded to by the Navy Department on the 10th of June, 1848, will cease after the 10th of July, 1850, and the mail service for the entire distance between Panama and Nasqually must be performed in sea-steamers, as stipulated in the contract with Arnold Harris, bearing date the sixteenth day of November, A. D. 1847.

Be pleased to acknowledge the receipt of this notice.

I am, very respectfully, your obedient servant,

WM. BALLARD PRESTON.

WM. H. ASPINWALL,
*Assignee of Arnold Harris, New York.*

I concur in and approve of the foregoing order of the Secretary of the Navy.

J. COLLAMER,
*Postmaster General.*

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NAVY DEPARTMENT,
*January* 4, 1850.

SIR: With the concurrence and approval of the Postmaster General, you are informed that that part of the order dated January 2, 1850, in relation to the mail service in steamers on the Pacific, from Panama, which is in these words, to wit: "The departure of the steamers from Panama must be subject to, and absolutely dependent on, the receipt of and connexion with the principal mail or mails despatched from the United States, under the direction of the Post Office Department, for transportation across the isthmus of Panama to California and Oregon," must be understood and regarded as of immediate operation, and to be regarded and conformed to from this date.

I am, respectfully, your obedient servant,

WM. BALLARD PRESTON.

WM. H. ASPINWALL, Esq.,
*Assignee of Arnold Harris, New York.*

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WASHINGTON, *June* 4, 1850.

SIR: Having consulted with the Hon. S. R. Thurston, of Oregon, I respectfully submit the following plan for the service northward from San Francisco, under the mail contract of November, 1847:

1. That Astoria remain, as originally intended, the northern terminus.

2. That the steamer touch for the present at Trinidad bay; and hereafter at such other safe intermediate point on the coast as you may direct.

3. That the steamship Columbia, of over 700 tons, launched two months since, and now fitting out, be assigned to the above service, when accepted by your inspector in New York; and that the new steamship Carolina, pro-

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peller, of about the same capacity, now on the station, perform the service until the arrival out of the Columbia.

Until there be a river steamboat on the Columbia, I intend that one of the above steamships shall regularly ascend the river to Portland, for the accommodation of persons going to and from Oregon, whenever ice or other impediments do not prevent this being done, in addition to the service required by the contract.

I am, most respectfully, your obedient servant,

WM. H. ASPINWALL.

Hon. WM. BALLARD PRESTON,
*Secretary of the Navy, Washington.*

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JUNE 5, 1850.

I have examined the above plan, and give my consent to the service, with the understanding, that the mail steamers be required to stop at such intermediate point south of the Columbia, in Oregon, as the future wants of the people shall require.

SAMUEL R. THURSTON.

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Distance of Astoria from the sea, 18 miles.
From Astoria to Oregon city, 130 miles, good.
From Portland to Oregon city, 12 miles.
From mouth of the Willamette river to Portland, 15 miles.
From Oregon city to Salem, 50 miles.

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BALTIMORE, *June* 7, 1850.

MY DEAR SIR: Will you allow me to remind you of the importance to our company, that we should hear from you early, on such points of my letter to the department as you have determined on, so that we may send the necessary orders by an agent leaving on the 13th instant. If you decide that we must begin the service with one of the large boats, we will do so, though we intended to overhaul them in turn this summer, after the severe and constant work they have had so far from home; and with the large boats we cannot do all the Oregon people want of us, owing to the water they draw. In our brief interview, yesterday morning, I had not time to refer to the original contract; if I remember right, the spirit of it is to require us to furnish, *at least*, a certain tonnage for specified service, and at a fixed compensation.

The proposition I now make does not vary either the service or the compensation; I only offer to increase the tonnage, thus providing a spare boat for contingencies of loss, accident, or necessary repairs to the others; and this becomes needful from the time you require the service north of San Francisco. Individually, I would prefer that your report to the committee of inquiry should show that we had done more than we engaged to do. Apologizing for intruding on your valuable time,

I am, with much regard, respectfully yours,

WM. H. ASPINWALL.

Hon. WM. BALLARD PRESTON.

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NAVY DEPARTMENT, *June* 8, 1850.

SIR: I have received your letters of the 4th and 7th instant, relative to a change in the plan for the mail service north of San Francisco.

In the interview I had with you recently, I intimated my purpose to require the mail service to be performed throughout the route, from Panama to Oregon, by the three vessels which were accepted at New York, and sent to the Pacific under the contract with Arnold Harris, of November, 1847, being the only vessels over which the department has as yet any control. In your letter of the 7th instant you express a willingness to send one of your largest boats to perform the service from San Francisco to Oregon. The department does not require the service from San Francisco to Oregon to be performed by any particular boat, leaving with the company the right to make its own selection. All that the department requires is that the service shall be performed by one of the boats which have been accepted, viz: either the "Oregon," "California," or "Panama."

As to the change proposed by you, of the points at which the mails are to be received and delivered, upon an examination of the whole question, as well as of a letter addressed to the department by the Hon. Mr. Thurston, of Oregon, a copy of which is herewith enclosed, the department declines changing the order and arrangement set forth in its letter of 2d January last.

I am, respectfully, your obedient servant,

WM. BALLARD PRESTON.

WM. H. ASPINWALL, Esq.,
*Assignee, &c., New York.*

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WASHINGTON, *June* 8, 1850.

SIR: After an interview with you—I learn that you will not consent—not being authorized by law so to do—to accept or allow any other steamer than one of the three, the "Oregon," "Panama," or "California," which have been admitted into the service according to law, to perform the mail service between San Francisco and Oregon. In my assent to Mr. Aspinwall's letter of the 4th of June, 1850, I was governed by the fact, or understanding, that the "Columbia" would perform the mail service from San Francisco to Oregon; and that in addition to the monthly trip with the mails, she would run an additional time a month for the accommodation of the people of Oregon, each time touching at the mouth of the Umpqua and Rogue rivers, so soon as I might be informed that such was the desire of the people of Oregon. If the larger steamers are to run, I am satisfied the benefits to Oregon, had in contemplation, will not be derived from the proposed change; and hence, until advised by the people at home, I must withdraw my assent to the proposed change. Until otherwise advised, I am of opinion that the interest of Oregon requires these two points, heretofore established, to be the termini in Oregon.

I am, sir, yours truly, &c.,

SAML. R. THURSTON.

Hon. WM. B. PRESTON.

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WASHINGTON, *September* 25, 1850.

SIR: I beg leave to submit to you the enclosed (copy) order from the Assistant Postmaster General, published in the "Oregon Spectator," from which, and from other evidence before me, it appears that the wants of the Post Office Department and of the people of Oregon can be best met by adopting as the terminus of the ocean mail service on the Pacific the port of Astoria, originally indicated in the contract of your department with Arnold Harris. I respectfully solicit your instructions on the subject.

I am, most respectfully, your obedient servant,

WM. H. ASPINWALL.

To the Hon. the SECRETARY OF THE NAVY.

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## *Postal affairs in Oregon.*

Our readers will, doubtless, be much gratified to learn, that, through the untiring diligence of our delegate at Washington, the facilities for the transmission of news in Oregon are being rapidly perfected.

From the following copy of a letter of instruction to the postmaster at Astoria, it will be seen that our mail matter will be brought to us directly, without two or three overhaulings, as heretofore. This will secure much greater despatch and safety:

POST OFFICE DEPARTMENT,
*Contract Office, May* 22, 1850.

SIR: The Postmaster General directs that Astoria be made a *distributing* post office for all mail matter passing through your office from New York, Charleston, S. C., Savannah, Ga., and New Orleans, *via* Panama, and from San Francisco; and for all mail matter which passes through your office for San Francisco and its distribution, as also for all offices in the States, *via* Panama.

The postmasters at the points above named are instructed to send to your office for distribution all matter for points in Oregon, in separate bags properly labelled, which bags are not to be opened at San Francisco. You will return in those bags, to the respective offices, also properly labelled, (with strong leather labels, and distinctly and heavily marked,) all mail matter which you may have on hand for points in the States, which is intended to go *via* Panama.

Where the mail is addressed by name to the office of distribution, you are not to open it for the purpose of re-mailing and forwarding; but when addressed to Astoria, as a distributing office, you will open the package and re-mail and forward its contents to the respective offices to which the matter is directed; and when addressed to some point in Oregon where no post office is yet established, you will send it to the post office nearest to the place to which the matter is directed.

The distribution commission will be seven per cent., to be cast upon the amount of the matter re-mailed and forwarded.

Respectfully, your obedient servant,

S. R. HOBBIE,
*First Assistant Postmaster General.*

POSTMASTER, *Astoria, Oregon.*

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*Memorandum.*

The Pacific Mail Steamship Company, assignees of the contract of Arnold Harris, request the Department of the Navy to signify its acceptance of the ships "*Tennessee*" and "*Columbia*," under the said contract.

The contract is founded upon an act of Congress of the 3d March, 1847, entitled "*An act for the building and equipment of four naval steamships.*"

The law requires the mail to be transported from Panama to Oregon, *once a month each way.* (5th section.)

The contract founded upon the fifth and sixth sections of this act, requires the contractors to provide "*not less*" than three steamships of a certain description and capacity.

The company built and put in operation, on the line, three steamships, to wit: the "*California*," "*Oregon*" and "*Panama.*"

They were inspected by order of the Navy Department, and declared to be accepted under the contract.

It was found, by the earliest experience of the company, that three steamships were not adequate to the service called for by the contract. Even while the department permitted the company to transport the mails north of San Francisco to and from Oregon in sailing vessels (until July last) three boats were found insufficient. The company, with the least possible delay, provided the steamship "*Tennessee*," and after being inspected by the board of officers appointed by the Navy Department, and approved by them, that vessel was despatched to the Pacific ocean, and for a year past has been engaged in transporting the mails, with the other three ships.

Notwithstanding the assistance afforded by the "*Tennessee*," the company saw that in case of injury by accident to these ships, even four vessels might not enable them to perform the contract punctually between Panama and San Francisco. The exigency was so great, that it was thought not expedient to await the building of another steamship; and the company purchased and placed on the line the British-built steamship "*Unicorn*," a fine vessel built for the Cunard line. Being a foreign ship, the vessel was not offered under the contract; and it was not intended that the mails should be transported by her, except in case of an emergency; but such emergency did on one occasion occur, and it became necessary, for one trip, to place the "*Unicorn*" in lieu of one of the accepted regular ships.

A few months ago (January 1st) the department notified the company to commence, at the end of six months, the transportation of the mails north of San Francisco, to and from Oregon, by *steamships*, and no longer by sailing vessels. To meet this requisition, the company has caused the steamship "*Columbia*" to be built at Newport, the same vessel that was lately inspected and reported upon by Commodore Perry and his associates. This ship has gone on her voyage to her destination. It is expected that the company will be obliged to provide a still greater number of vessels, with a view, if possible, to prevent all failure of the mail service. When the ships are more worn, frequent repairs and fittings up will be required. When one vessel is hauled off, another must be ready to take its place.

Under these circumstances the company now desire the Secretary of the Navy to signify his acceptance of the "*Tennessee*" and the "*Columbia*," as steamships provided and received under the said contract.

The company is not aware that there is any advantage from having their steamships declared to have been *received* under the contract, except

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the saving of the duty on the foreign coals that may be consumed on board said ships. This is of some value to the company; but their chief motive is, that there may be no difference in the condition of their vessels,—as all have been built and put into service *under the contract*, they desire that they may be so regarded by the government.

The company respectfully request the Secretary of the Navy to give their president, Mr. Aspinwall, official notice that the steamships "*Tennessee*" and "*Columbia*" have been accepted under the contract, in the same manner and to the same extent as the ships "*Oregon*," "*Panama*," and "*California*" have been accepted.

PACIFIC MAIL STEAMSHIP COMPANY,
By EDWARD CURTIS.

WASHINGTON, D. C., *September*, 1850.

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NAVY DEPARTMENT,
*October* 1, 1850.

SIR: The proposition submitted to this department by Mr. Edward Curtis, in behalf of the Pacific Mail Steamship Company, viz: to accept, under the contract with Arnold Harris, the steamships Tennessee and Columbia, in the same manner and to the same extent as the ships Oregon, Panama and California have been accepted, has been referred to the Postmaster General. In his letter of the 30th ultimo he states, in reference to the number of vessels for the performance of said service: "I have to say, that while three steamships, viz: two between Panama and San Francisco and one between San Francisco and Astoria (assuming that as the northern terminus of the line,) may be regarded as sufficient—when there are no accidents or contingencies—yet, in view of the liability to casualties and unforeseen circumstances of detention on a monthly line of 4,200 miles in length, it may be safely assumed that a full complement of vessels sufficient for the performance of each trip, and also to meet exigencies arising from accidents, would embrace two ships more in addition to the present number of three, to occupy the different portions of that route, and to be afloat or in port alternately with each other and the original three ships of the line." In consideration of which statement, you are hereby informed that the steamships Columbia and Tennessee are accepted, in the same manner and to the same extent as the ships Oregon, Panama and California were accepted.

It is, however, to be distinctly understood, that the modifications of the contract with Arnold Harris, acceded to by the Navy Department on the 10th of June, 1848, ceased after the 10th of July, 1850, and that the acceptance of the ships Columbia and Tennessee is not to be considered as in any way changing the amount of yearly compensation for the performance of mail service under the said contract with Arnold Harris.

Be pleased to acknowledge the receipt of this letter.

I am, sir, very respectfully, your obedient servant,

WILL. A. GRAHAM.

WM. H. ASPINWALL, Esq.,
*Assignee of Arnold Harris, New York.*

I concur in and approve the foregoing order of the Secretary of the Navy.

_____,
*Postmaster General.*



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NAVY DEPARTMENT,
*October* 1, 1850.

SIR: Your letter of the 25th September, asking a change in the northern terminus of the Pacific mail steamship line, has been referred to the Postmaster General.

In his letter of the 30th ultimo he states, "that in the judgment of this department, Astoria, in the Territory of Oregon, is the proper point to be made the northern terminus of the Pacific ocean steam mail line. It is at Astoria, near the mouth of Columbia river, that the great mail route of Oregon connects all the present settlements in the Territory with the ocean lines of communication to and from Oregon. From the mouth of the Cowlitz, on the Columbia river above Astoria, a route extends to Fort Nasqually, a distance of but ninety miles. Higher up on the Columbia, and on the route extending from it eastwardly across the Rocky mountains to the State of Missouri, and on the principal tributary, the Willamette, are situated all the post offices established in Oregon. The extension of the ocean line north of Astoria is unnecessary, as every point in that region where settlements exist can be supplied by the present system of land routes; and instead of being desired, its extension is most unfavorably regarded, and is objected to by the people and authorities of Oregon;" and he advises "the termination of the ocean steam route to be fixed at Astoria."

You will therefore take notice, that from and after the first of January, 1851, the mail service to be performed by the Panama and Oregon line of steamers is required to be performed as follows, viz: from Panama to Astoria, in the Territory of Oregon, once a month each way, to stop and deliver and take mails at San Diego, San Francisco and Monterey.

The departure of the steamers from Panama must be subject to and absolutely dependent on the receipt and connexion with the principal mail or mails despatched from the United States, under the direction of the Post Office Department, for transportation across the Isthmus of Panama to California and Oregon.

The mail service for the entire distance between Panama and Astoria must be performed in sea-steamers, as stipulated in the contract with Arnold Harris, bearing date the sixteenth day of November, A. D. 1847.

Be pleased to acknowledge the receipt of this communication.

I am, respectfully, your obedient servant,

WILL. A. GRAHAM.

WM. H. ASPINWALL, Esq.,
*Assignee of Arnold Harris, New York.*

I concur in and approve the foregoing order of the Secretary of the Navy.

——— ———,
*Postmaster General.*

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POST OFFICE DEPARTMENT,
*September* 30, 1850.

SIR: I have the honor to state, in answer to your letter of the 27th instant, that, in the judgment of this department, Astoria, in the Territory of Oregon, is the proper point to be made the northern terminus of the Pacific ocean steam mail line. It is at Astoria, near the mouth of Columbia river,

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that the great mail route of Oregon connects all the present settlements in the Territory with the ocean lines of communication to and from Oregon. From the mouth of the Cowlitz, on the Columbia river, above Astoria, a route extends to Fort Nasqually, a distance of but ninety miles. Higher up on the Columbia, and on the route extending from it eastwardly, across the Rocky mountains to the State of Missouri, and on the principal tributary, the Willamette, are situated all the post offices established in Oregon. The extension of the ocean line north of Astoria is unnecessary, as every point in that region, where settlements exist, can be supplied by the present system of land routes; and instead of being desired, its extension is most unfavorably regarded, and is objected to by the people and authorities of Oregon, on account of the benefits it would confer (at their own expense and disadvantage) on what are considered hostile interests.

I advise the termination of the ocean steam route to be fixed at Astoria; and am, with great respect, your obedient servant,

N. K. HALL,
*Postmaster General.*

Hon. W. A. GRAHAM,
*Secretary of the Navy.*

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POST OFFICE DEPARTMENT,
*September* 30, 1850.

SIR: In reply to your letter of the 18th, I have the honor to say that "the mail service, by the Pacific line of steamers from Panama to Oregon, is performed in accordance with the stipulations of the contract," or rather was so performed at the latest dates of information from the agents and postmasters on the line. And in reference to the number of vessels for the performance of said service, I have to say that while three steamships, namely, two between Panama and San Francisco, and one between San Francisco and Astoria, (assuming that as the northern terminus of the line,) may be regarded as sufficient when there are no accidents or contingencies; yet, in view of the liability to casualties and unforeseen circumstances of detention, on a monthly line of 4,200 miles in length, it may be safely assumed that a full complement of vessels sufficient for the performance of each trip, and also to meet exigencies arising from accidents, would embrace two ships more, in addition to the present number of three, to occupy different portions of the route, and to be afloat or in port alternately with each other, and the original three ships of the line.

With great respect, I am your obedient servant,

N. K. HALL,
*Postmaster General.*

Hon. WM. A. GRAHAM,
*Secretary of the Navy.*

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NEW YORK, *August* 23, 1850.

SIR: In obedience to your order of the 19th instant, we have carefully inspected the steamer "Columbia," and have the honor to report that she is a substantial new vessel, of good model, built of unseasoned mixed tim-

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ber, in similar manner to the "Oregon," "California," and "Panama," belonging to the Pacific mail line. She is 718 tons burden, has two side-lever engines of 236 horse-power, with two flue-boilers, and promises to have good speed.

This vessel is capable, with the requisite alterations and appointments, of being easily converted into a war steamer of the second class, to be employed in the public service in times of emergency; but from her peculiar model and arrangements, she could never be made equal to a vessel built expressly for war purposes.

For a detailed description of the "Columbia," we respectfully refer to the accompanying paper, prepared and signed by the builder and inspector of that vessel.

Most respectfully, your obedient servants,

M. C. PERRY,
W. D. SALTER,
*United States Navy.*
WM. SKIDDY.

Hon. WM. A. GRAHAM,
*Secretary of the Navy.*

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*Description of the steamship "Columbia," built by Messrs. Westervelt and Mackay, New York.*

Length on deck, 194 feet; length of keel, 192 feet; beam, 29 feet; and depth 12½ feet; 718 tons; has about three inches dead rise at half-flow; stem and stern post upright, and round stern. The materials of which she is built are white oak, live oak, locust, cedar, chestnut, and yellow pine. Her floor timbers are sided fifteen and moulded thirteen inches; and instead of floors and first futtocks, she has double long floors, and no first futtocks, (except at the ends,) by which arrangement the timbering space is entirely occupied by the double floors, all bolted horizontally, forming a complete solid bottom, avoiding the necessity of filling-in pieces except in the turn of the bilge; also presenting a solid floor nearly the whole length of the ship; without butts under the engines and boilers, rendering the foundation for the engines secure and firm. There are five keelsons, and the frame, up to the plank-shire, is trussed with iron bars each way, at an angle of about forty-five degrees. The bars are four inches wide by five-eighths thick; the first tier let into the timbers flush, and the second tier crossing at right-angles, all bolted into every timber, and riveted at the crossings. The bilge streaks and clamps are six inches thick; the ceiling and bottom plank 3½ inches and wales four inches thick; deck, three inches; beams, yellow pine, with lodging and hanging knees, all bolted and thoroughly fastened.

This vessel, in point of strength, will equal any steamer built in this port of equal tonnage. She has a light deck above the main deck for passengers, which can easily be removed; and at a very little expense she can be converted into a war steamer, (for the coast guard,) mounting two heavy guns. Her draught of water when launched was four feet three inches, and when loaded will not exceed nine or ten feet; has been sheathed with heavy yellow metal, and will probably be ready for sea in September; has two side-lever marine engines, diameter of cylinders 57 inches, with 5 feet stroke; shafts, cranks, and framing, of wrought iron; diameter of wheel 22

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feet; buckets 8½ feet; two flue-boilers, 8 by 24 feet; grate surface 124, fire surface 2,600 feet; and nominal horse-power 236; is furnished with an independent steam-pump and separate boiler; will stow in the bunkers, as now arranged, 320 tons; and the daily consumption is estimated at twelve and fourteen tons.

WM. SKIDDY,
*Especial Navy Constructor for U. S. Mail Steamers.*
WESTERVELT & MACKAY,
*Ship-builders.*

NEW YORK, *August* 22, 1850.

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NEW YORK, *November* 19, 1849.

SIR: In obedience to your order of the 8th instant, we have inspected the steamer "Tennessee," belonging to the Pacific Mail Company, and have the honor to report that she was launched from the ship-yard of Mr. Wm. H. Webb, in this city, in November, 1848, and made her first voyage to Savannah, Georgia, in March of the present year.

Her dimensions are as follows:

| | |
|---|---|
| Length on deck | 211½ feet. |
| Length of keel | 200 " |
| Extreme breadth | 35 6/12 " |
| Depth of hold | 22 " |
| Tonnage | 1,295 tons. |

The "Tennessee" has been constructed of mixed unseasoned timber, put together in the usual manner; she has no extraordinary fastenings, and may be considered, in point of strength, equal to the other steamers of the Pacific Mail Company, excepting only that she is not diagonally trussed.

For fleetness she is supposed to be superior to the other vessels; and for convenience of application to war purposes, she has equal advantages.

By removal of the upper deck and cabins, with some changes in the plan of the main deck, with arrangements for mounting and securing the guns, she could be made to carry with ease and convenience at least eight Paixhan guns of 7 and 8-inch calibre; that is, two 8-inch heavy pivot guns forward and aft, and six 7 or 8-inch lighter pieces at the side-ports—say respectively of 48 or 60 cwt.

She has one side-lever engine, with two flue-boilers, made at the "Novelty iron works;" the engine having the nominal power of about 240 horses, estimated by the English rule, which may be considered equal to 400 horses' operative power, at moderate pressure. She has iron coal bunkers, and will carry 450 tons of coal; her alleged daily consumption being about 20 tons.

She has also iron tanks for a supply of water equal to ten thousand gallons.

When launched she drew seven feet of water, and with all her machinery on board her draught is ten feet and six inches. She is lightly rigged, and somewhat in the manner of the other vessels of the same company.

We are, sir, very respectfully, your obedient servants,

M. C. PERRY.
W. D. SALTER.
WM. SKIDDY.

The Hon. WM. BALLARD PRESTON,
*Secretary of the Navy.*

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PACIFIC MAIL STEAMSHIP COMPANY,
*New York, October* 21, 1850.

SIR: I have had the honor to receive two letters from the department, bearing date October 1, 1850, concurred in by the Postmaster General, directing that from January 1, 1851, the service under the contract of Arnold Harris extend from Panama to Astoria, in the Territory of Oregon, in sea-steamers, to stop and deliver and take mails at San Francisco, San Diego, and Monterey; and accepting the steamships "Columbia" and "Tennessee," in the same way that the "California," "Panama," and "Oregon" were accepted.

Orders will be given by the company accordingly.

I have the honor to be, sir, your obedient servant,

WM. H. ASPINWALL, *President.*

Hon. WM. A. GRAHAM,
*Secretary of the Navy.*

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AN ACT making appropriations for the naval service, for the year ending the thirtieth of June, one thousand eight hundred and fifty-two.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the following sums be, and they are hereby appropriated, to be paid out of any money in the treasury not otherwise appropriated; for the year ending the thirtieth of June, one thousand eight hundred and fifty-two:

* * * * * * * *

For transportation of the United States mail between New York and Liverpool, between New York and New Orleans, Havana, and Chagres, and between Panama and some points in the Territory of Oregon, eight hundred and seventy-four thousand six hundred dollars: *Provided,* That no payment shall be made for said services, except in proportion to the mail service heretofore performed, or that may be hereafter performed; and that the Secretary of the Navy is hereby directed to make payment in said proportion only: *Provided also,* That the Secretary of the Navy be, and he is hereby, authorized and directed to require the several advances of money made under the act of Congress, August third, one thousand eight hundred and forty-eight, to the different contractors, or their assignees, for mail steamship service, to be refunded by deductions from the compensation of each line, ten per cent. annually, reckoning, in the adjustment of the advances to all of the lines, from the commencement of the performance of their respective mail service: *And provided further,* That the said contractors, or their assigns, shall, from and after the passage of this act, pay interest on the balances of said advances still due, at the rate of six per cent. per annum, till paid: *And also provided further,* That the Secretary of the Navy and the Postmaster General be authorized, by and with the consent of the contracting parties, respectively, to re-arrange the running of the United States mail steamships, so as to afford more direct despatch between the ports of the United States and the Isthmus of Panama: *Provided,* That the Postmaster General shall maintain a semi-monthly mail between Charleston, Savannah, and Havana, during the continuance of the Sloo contract, and also to make the service from Panama to California and Oregon conform with the service required by the existing contract on the At-

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lantic side of the isthmus, by increasing the trips of the Pacific line to semi-monthly: *Provided*, That the said increased service on the Pacific side shall be at a rate not exceeding seventy-five per cent. upon the amount now paid for Pacific service; and to be performed in steamships built according to the specifications and subject to all the clauses of the A. Harris contract beneficial to the United States. And the Postmaster General is hereby authorized to include in this arrangement such a provision for the transportation of the letter mails only in the steamships of the said contractors, running between New York and Chagres, and as in his opinion the public service may demand, not exceeding in the whole the amount herein limited: *And provided further*, That the compensation for the semi-monthly service already performed between Panama and California and Oregon, and for such service for the coming year, shall not exceed three-fourths the usual rate at which additional mail service may be ordered under existing laws, and shall be paid out of any unexpended balance of money heretofore appropriated for mail steam service: *Provided*, That whenever a better route between the Atlantic and Pacific oceans is established, the Secretary of the Navy and the Postmaster General are authorized to agree with the present contractors for the Pacific line to change the terminus of the additional semi-monthly service hereby authorized, so as to secure the advantage of increased despatch and economy; and in case the reduction of compensation for the change of service be not agreed on between the parties, the same shall be referred to Congress. And the Postmaster General is also authorized to make corresponding arrangements with the present contractors for the transportation of the mail from New York to Chagres, for the change of the terminus of their route. And until such better route be established, the Postmaster General shall be, and hereby is, authorized to enter into contracts, or to make suitable arrangements, for transporting the mails between Chagres and Panama with regularity and despatch: *Provided*, The rate of compensation shall not exceed twenty-two cents per pound, and shall cease on the establishment of any new route between the two oceans offering greater despatch and economy.

* * * * * * * *

Approved March 3, 1851.

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NAVY DEPARTMENT,
*March* 12, 1851.

SIR: It having been represented to this department, "that a port of entry has been established near the mouth of the Umpqua river, at Scottsville, and that that part of Oregon contains a large number of people, rapidly increasing, and that they have no mails," I have to direct, (the Postmaster General concurring) that under the contract of Arnold Harris with this department, entered into on the 16th day of November, 1847, and assigned to you on the 19th of November, 1847, that the sea-steamers provided under that contract stop, deliver, and take mails at Scottsville, near the mouth of the Umpqua river, on their upward and downward trips. This arrangement to go into effect from and after the 1st of July, 1851.

Be pleased to acknowledge the receipt of this letter.

Very respectfully, your obedient servant,

WILL. A. GRAHAM.

WM. H. ASPINWALL, Esq.,
*Assignee of Arnold Harris, New York.*

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PACIFIC MAIL STEAMSHIP COMPANY,
*New York, March* 16, 1851.

DEAR SIR: I have the honor to hand herewith extract from the minutes of the board of directors of the Pacific Mail Steamship Company, ratifying and confirming the contract for additional mail service in the Pacific, made at Washington on the 13th instant, which I now enclose duly executed.

The Postmaster General having expressed a wish to have a copy, I shall have the pleasure of handing you a triplicate in a day or two for your signature.

I remain, sir, very respectfully, yours, &c.,

WM. H. ASPINWALL,
*President.*

Hon. WM. A. GRAHAM,
*Secretary of the Navy, Washington, D. C.*

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PACIFIC MAIL STEAMSHIP COMPANY,
*New York, March* 16, 1851.

"*Resolved*, That the contract entered into on the 13th instant, at Washington, for additional mail service in the Pacific, and this day submitted to the board by the president, be, and the same is hereby approved and ratified; the president being authorized to attest the same by affixing his official signature and the seal of the company thereto."

Extract from the minutes of a meeting of the board of directors, at their office, on Monday, March 16, 1851.

Attest:

I. M. CATLIN,
*Secretary pro tempore.*

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NAVY DEPARTMENT,
*July* 31, 1851.

SIR: You are hereby informed that the steamship Golden Gate is accepted, in the same manner and to the same extent as the steamships Columbia and Tennessee were accepted.

I am, very respectfully, your obedient servant,

WILL. A. GRAHAM.

WM. H. ASPINWALL, Esq.,
*President Pacific Mail Steamship Company, New York.*

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NEW YORK, *July* 30, 1851.

SIR: In obedience to your order of the 22d instant, we have carefully inspected the new steamer Golden Gate, and have the honor to report, that so far as we have been able to examine (in her present state of entire completion for sea) her mode of construction and the materials of which she has been built, we are of opinion, that in the essentials of strength, buoyancy, and speed, she is quite equal to either of the vessels of the same line,

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already favorably reported on; and in respect to her engines and general arrangements, especially for convenience and ventilation, she is decidedly superior; and we are further of opinion that this vessel is capable, with the requisite alterations and appointments, of being easily* converted into a war steamer of the first class.

For a detailed description of the Golden Gate, we respectfully refer to the accompanying paper, prepared by the superintendents in charge.

With great respect, we have the honor to be, your most obedient servants,

M. C. PERRY.
CHAS. H. BELL,
*Commander.*

Hon. WM. A. GRAHAM,
*Secretary of the Navy, Washington, D. C.*

—

JULY 29, 1851.

DEAR SIR: In conformity with Mr. Aspinwall's request I furnish you with the following:

The Pacific mail steamship "Golden Gate" was built in New York by W. H. Webb, in 1851, of white oak, live oak, locust, and cedar. Has three masts, short bowsprit, and is barque-rigged. Her dimensions are:

| | | |
|---|---|---|
| Length on deck | 269 | feet. |
| Breadth of beam | 40 | " |
| Depth of hold | 30 6/12 | " |
| Tonnage (carpenter's) about | 3,000 | tons. |
| " as per custom-house register | 2,067 55/95 | " |

Main keel white oak, 254 feet long, 12×24 inches wide.

Floor solid white oak, sided 15 inches, moulded 18 inches, bolted with 1¼-inch iron fore-and-aft-wise.

Second and third futtocks white oak, sided 10 inches, moulded 12½ inches at the head.

Top timber live oak, locust, and cedar, moulded 7 inches at the head.

Fifteen frames at each end of the ship, entirely of live oak.

Dead-woods forward and aft all live oak, fastened with 1⅛ and 1¼-inch copper and iron bolts.

Main keelson yellow pine, 14×24.

Engine and boiler keelsons, four on each side, 15×15, fastened with 1¼-inch iron, locust coaged to the frames.

Bilge streaks yellow pine, 10×12.

Ceiling yellow pine, 8×11.

Lower deck beams yellow pine, sided 15 inches, moulded 10 inches.

Fore and aft knees white oak, fastened with inch iron.

Hanging knees white oak, sided from 8 to 10 inches, fastened with 1 and 1⅛-inch iron.

Lower deck water-ways yellow pine, three tiers from 12 to 15 inches square.

Ceiling between decks, on berth-deck yellow pine, 6×11 inches wide.

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* Concurred in, all except the word "*easily*."

B. F. DELANO, *Naval Constructor.*

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Clamps yellow pine, 7×13 inches.

Beams yellow pine, 8×14 inches.

Water-ways yellow pine, 14 inches.

Fore and aft knees white oak, sided 6 and 7 inches, fastened with $\frac{7}{8}$-inch iron.

Hanging knees white oak, sided 8 and 11 inches, fastened with inch iron.

Deck plank white pine, $3\frac{1}{2}$ inches thick.

Outside planking yellow pine, bottoms 4 inches, bilges $4\frac{1}{2}$ inches.

Wales 5 inches square, fastened with $1\frac{1}{4}$-inch locust tree-nails, and $\frac{7}{8}$-inch copper bolts.

Frame double or cross-braced fore and aft, from floor-heads to open deck, with Ulster iron 4 inches wide and $\frac{7}{8}$ inch thick.

Draught of water at launching, 7 feet.

Draught of water this day, with 700 tons coal, 12,000 gallons water, engine complete, and some 40 tons of sundries on board, 13 feet 8 inches.

Coppered to 16 feet with 28, 24, and 22-ounce copper.

The ship is furnished with two of Farnham's patent double-acting force and lift-pumps, four bilge-pumps, and six hand-lift and force-pumps, exclusive of those connected with the engine.

*Description of engines (by C. W. Copeland.)*

Two oscillating marine engines, of 85-inch diameter of cylinder and 9-feet stroke, about 350 nominal horse-power each (Bourne's rule.)

There are four tubular boilers, two forward and two abaft the engines, each pair having a separate chimney. The boilers are set athwartships, face to face, the fire-room being between them amidships.

The engines have wrought-iron framing, shafts, cranks, and water-wheels.

The underside of deck, over boilers, is completely sheathed with iron, and also the rooms enclosing the chimneys.

Each engine has a bilge-pump and bilge injection-valve; and in addition, there are fitted up two independent Worthington steam-pumps, one of which is fitted to be used as a fire-engine only—the other is fitted to be used as a fire-engine or bilge pump. These pumps can be worked by steam from the main boilers, or from a small independent tubular boiler provided for that purpose.

Respectfully yours,

W. C. STOUT.

Commodore PERRY.

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POST OFFICE DEPARTMENT,
*September* 23, 1851.

SIR: Information has been received at this department, that it is impracticable to include Scottsville in the Pacific mail steamship line. I beg leave, therefore, to suggest that an order be made to substitute Umpqua city as the office to be supplied by the company on that line, between San Francisco and Astoria, omitting Scottsville from the contract.

I have the honor to be, respectfully, your obedient servant,

N. K. HALL,
*Postmaster General.*

Hon. WILL. A. GRAHAM,
*Secretary of the Navy.*

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NAVY DEPARTMENT,
*September* 24, 1851.

SIR: You will receive, enclosed herewith, copy of a letter from the Postmaster General, addressed to this department, suggesting that an order be made to substitute Umpqua city as the office to be supplied by the company on the Pacific mail steamship line, between San Francisco and Astoria, omitting Scottsville from the contract.

The department desires that Umpqua city shall be substituted for Scottsville, on the Pacific mail line, and that Scottsville be omitted.

I am, sir, very respectfully, your obedient servant,

WILL. A. GRAHAM.

WM. H. ASPINWALL, Esq.,
*President Pacific Mail Steamship Company, New York.*

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POST OFFICE DEPARTMENT,
*September* 23, 1851.

SIR: Mr. Aspinwall, president of the Pacific Mail Steamship Company, has applied for permission to leave Panama for San Francisco immediately on the arrival of the mails from Chagres; and in answer, he is informed that, your assent being also obtained, there is no objection to such arrangement. In the event, however, of any part of the mails being behind, the regular steamer should not depart till their arrival, except the same be taken forward from Panama by another of the company's vessels without additional expense to the government.

I have the honor to be, very respectfully, &c.,

N. K. HALL,
*Postmaster General.*

Hon. WILL. A. GRAHAM,
*Secretary of the Navy.*

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NAVY DEPARTMENT,
*September* 24, 1851.

SIR: You will receive, enclosed herewith, copy of a letter addressed to this department by the Postmaster General, in reference to your application for permission to leave Panama for San Francisco immediately on the arrival of the mails from Chagres, and you are informed that the Secretary of the Navy concurs in the arrangement therein indicated.

I am, sir, very respectfully, your obedient servant,

WILL. A. GRAHAM.

WM. H. ASPINWALL, Esq.,
*President Pacific Mail Steamship Company, New York.*

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POST OFFICE DEPARTMENT,
*December* 20, 1851.

SIR: I have the honor to inform you that I have made an order assenting, on my part, to the omission of San Diego and Monterey from the main

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Pacific mail line, on condition that said offices are regularly supplied by a slower line, and that the mail by the main line be expedited as proposed, without additional compensation; a copy of the correspondence is enclosed. If you concur with me in consenting to this change as a temporary arrangement, please so inform Mr. Aspinwall at your earliest convenience.

I am, sir, very respectfully, your obedient servant,

N. K. HALL,
*Postmaster General.*

Hon. WILL. A. GRAHAM,
*Secretary of the Navy.*

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PACIFIC MAIL STEAMSHIP COMPANY,
*New York, December* 17, 1851.

SIR: This company has been willing to make a change of arrangements in the Panama and San Francisco line, that would amount to a great improvement; but inasmuch as it involved the performance of additional service, it has entertained the expectation of receiving additional compensation therefor. It is this: to increase the expedition of the through-line, so as to run between Panama and San Francisco in about fifteen days; and to enable this to be effected, to run another line at less speed to supply the intermediate offices. Here is increased speed, which in its benefits is of the nature of additional service, and which in its performance actually comes to that in the matter of expense to this company, as another line has to be employed in the mail service to enable the expedition to be accomplished. If the through-line can be run in fifteen days, a letter from the Atlantic States will get to hand from five to seven days earlier, and its answer some three weeks, nearly, sooner than now. Monterey and San Diego will not enjoy the benefit of this expedition, but they will be supplied by another line, running about as fast as the through-line has heretofore done; and by starting from the northern end of the route several days in advance, will, by a simultaneous arrival at Panama, keep up the through-connections.

I wish now to say, that we waive raising any question as to additional pay, and that we will take the Monterey and San Diego mails by our second line, in order to run the trips of the first line with the utmost despatch practicable, by being relieved of the supply of the intermediate offices.

As soon as you will inform me of your assent to this arrangement, and that of the Secretary of the Navy, (which will doubtless be accorded on your agreeing to it,) I will put the same in operation, reserving the right, however, as we receive no additional compensation, of resuming the contract service when we shall find it expedient to do so.

I have the honor to be, very respectfully, your obedient servant,

WM. H. ASPINWALL,
*President.*

Hon. N. K. HALL,
*Postmaster General.*

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POST OFFICE DEPARTMENT,
*December* 19, 1851.

SIR: I am in receipt of your letter of the 17th inst., proposing to increase the expedition on your main line between Panama and San Francisco, on

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condition of being permitted to supply the intermediate offices at San Diego and Monterey "by another line, running about as fast as the through-line has heretofore done." You say that, for this "improvement," your company "has entertained the expectation of receiving additional compensation," but that you "waive raising any question" on that point.

In answer, I have to say that, so far as this department is concerned, it is the desire in every way practicable to remove all obstacles to the direct and speedy despatch of the mails, and thus, as far as possible, to aid the regular mail lines on both sides of the isthmus, in successfully competing with the rival route (not now a mail line) *via* Nicaragua, the principal object, as it is understood, of the proposed change. With this feeling, and with the view, if possible, of preventing the transmission by your line of "letters or commercial intelligence in advance of the mail," by expresses, known to go constantly by your ships, I am willing, on my part, to consent to the proposed alteration as a temporary arrangement, notwithstanding the objections which will, no doubt, be renewed against it by those interested in the quick despatch of the mails to and from San Diego and Monterey. But, in giving this assent, it must be distinctly understood that I in no way consent to any additional expense in the matter, either by a direct allowance from the department, or by favoring any application which may hereafter be made elsewhere for increased compensation for any additional trips you may find it necessary to run.

In this connexion it is proper to remark that, could the department have the regular semi-monthly service contracted for on the New York and San Francisco route, without any of these "extra trips," at regular periods, offering peculiar advantages to those engaged in transmitting important intelligence "in advance of the mail," it would be much preferred to the present mode of dividing the mails up between several steamers, all sailing within a few days of each other, and the whole, after all, giving only a twice-monthly mail in each direction. Besides, under the present arrangement, there is the risk of much of the matter lying over on the isthmus, as has repeatedly been the case, and of the bags being missent, in the absence of the route agents, who, unless their number be doubled, can, of course, accompany only a part of the mails over the line.

N. K. HALL,
*Postmaster General.*

WILLIAM H. ASPINWALL, Esq.,
*President P. M. S. S. Co., New York.*

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NAVY DEPARTMENT, *December* 20, 1851.

SIR: I have this day received from the Postmaster General a copy of your correspondence with that department relative to expediting the mail in your line of steamships between Panama and San Francisco, and have the pleasure to express my concurrence in the arrangement sanctioned by the Postmaster General, upon the terms and conditions stated in his letter.

With high respect, your obedient servant,
WILL. A. GRAHAM.

WILLIAM H. ASPINWALL, Esq.,
*President P. M. S. S. Co.*

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32d Congress, 1st Session. [SENATE.] With Ex. Doc. No. 50.

# REPORT

OF THE

# SECRETARY OF THE NAVY,

COMMUNICATING

*Further information in relation to contracts for the transportation of the mails by steamships between New York and California.*

March 25, 1852.
Referred to the Committee on the Post Office and Post Roads, and ordered to be printed.

Navy Department,
*March* 24, 1852.

Sir: I have the honor to submit the enclosed copy of a letter from Mr. Jno. Roberts, agent of the United States Mail Steamship Company, as being a portion of the information possessed by this department, called for by resolution of the Senate adopted on the 4th instant, and not received until after the report in relation to the United States mail steamers was transmitted.

I have the honor to be, with high respect, your obedient servant,

WILL. A. GRAHAM.

Hon. Wm. R. King,
*President of the Senate.*

Office of the United States Mail Steamship Company,
*New York, March* 19, 1852.

Sir: I have the honor to inform you that the assignees of A. G. Sloo, represented by this company, have commenced the construction of a new steamship, to carry the mails between New York, Havana, New Orleans, and Chagres, under the contract existing between A. G. Sloo and the Navy Department.

This steamer, when completed, will be the fifth in number constructed under the contract referred to.

The keel of the vessel is now laid, and the work of completion will progress as rapidly as possible.

Very respectfully, your obedient servant,

JNO. ROBERTS, *Agent.*

Hon. Wm. A. Graham,
*Secretary of the Navy, Washington.*

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32d CONGRESS, 1st Session. [SENATE.] WITH EX. DOC. No. 50.

# REPORT

OF

# THE POSTMASTER GENERAL,

COMMUNICATING,

*In compliance with a resolution of the Senate, information in relation to contracts for the transportation of the mails by steamships between New York and California.*

MARCH 26, 1852.

Referred to the Committee on the Post Office and Post Roads, and ordered to be printed.

POST OFFICE DEPARTMENT,
*March* 25, 1852.

SIR: In compliance with the requirements of the resolutions of the Senate of the 4th instant, calling on the Secretary of the Navy and Postmaster General for "copies of all the contracts originally made and at present existing for the transportation of the mails between New York and California by steamships on the Atlantic and Pacific oceans," and for certain information in regard to the transportation of the mails between New York and San Francisco, and other matters connected therewith, (leaving, by agreement with the Secretary of the Navy, certain portions of the required information to be furnished by his report,) I have the honor to submit the following report, containing such information, in answer to said resolutions, as can be furnished by this department.

The annexed statement, marked A, exhibits the amounts paid for conveyance of the mails across the isthmus, under the treaty of March 6, 1844, with the New Grenadian government; and also the amounts paid the government mail agents on the line between New York and San Francisco, as salary and expenses, while in charge of said mails. The Auditor's letter, accompanying this statement, may be referred to in explanation.

Under a temporary arrangement made with the Panama Railroad Company, with the view of carrying out, as far as practicable, the provisions relating to that service contained in the naval appropriation act, approved March 3, 1851, the service of conveying the mails across the isthmus since the 1st of December last has been performed by said company; but, as yet, they have presented no account for settlement.

Twenty-two cents a pound is the maximum rate of compensation for such service, fixed by the act making appropriations for the naval service, &c.; and an assurance was given to the railroad company, before it commenced the service, that the department would recommend to Congress to pay for such transportation at that rate. This recommendation was made in my last annual report.



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Statements marked B, C, D, and E, respectively, will show "the amount of service rendered, and by what vessels," between New York, New Orleans, and Chagres, between San Francisco and Panama, and between San Francisco and Astoria in Oregon, so far as the information in possession of the department enables me to state the same. It will be observed that, latterly, on the line between New York and Chagres, the arrivals and departures have been more frequent than the contract required.

As stated in my last annual report, this department consented to send mails by the direct steamers to Chagres, "with the express understanding that no obligation to pay for such service was thereby incurred, but without requiring the contractors expressly to relinquish all claim to compensation, and thus preclude an application to Congress." The main advantage of these additional trips has been to expedite the through-mails this side of the isthmus, inward, by running direct from Chagres to New York; and in going out, to take mails about two days later than by the Havana line. But the department would have been quite as well satisfied to have had only the regular contract service, provided there had been no other steamers on the line; because, in that case, there would have been much less doubt as to the days of sailing; there would have been no means for the expresses to go "in advance of the mails," and all the mails on the line could have been in charge of the government mail agent.

Prior to the 4th of March last, all the direct steamers on this line, it is believed, were run by the Pacific Mail Steamship Company; and to obviate the injurious effect of these extra ships upon the mails, or rather to take advantage of the more direct communication afforded by them, Congress, at its last session, in the act authorizing the increase of the service to semi-monthly trips on the Pacific line, introduced a provision that the Pacific Mail Steamship Company should convey any letter mails by said steamers, between New York and Chagres, without additional charge to the government. This is one of the stipulations in the contract with that company, but not binding on the contractors on this side, to whom, subsequently to the 4th of March last, these direct steamers are understood to have been transferred, and by whom they are now run. It is not known that there is any positive intention of applying to Congress for increased pay on account of these additional trips; but in view of the circumstances above alluded to, together with the fact stated in my last annual report, that the United States Mail Steamship Company are not now required to touch with their steamers at Charleston or Savannah, I am of the opinion that no additional compensation should be asked or allowed.

For some time after the commencement of service, and when the steamers were required to touch at Charleston and Savannah, as well as at Havana, the time occupied between New York and San Francisco was much greater than at present—in some instances reaching as high, I think, as forty days to the trip. At present, the outward passage is accomplished in not far from one month; and the inward trips, by the direct route, occupy from twenty-six to twenty-nine days. Two inward trips are reported to have been made: one in twenty-six days and four hours, and the other in twenty-five days and eighteen hours.

The schedule on the Pacific line is given only from the commencement of the year 1850; it being found impracticable to state with accuracy, from the files of the department, the days of arrival and departure, on that line,

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prior to that time. For the same reason the arrivals and departures at New Orleans are given only from the 1st of July, 1850.

Between San Francisco and Panama, both direct and way-steamers now run; and the through-mails, going on the direct line, are thus considerably expedited on the other, as well as on this side of the isthmus, without additional expense; this department, in assenting to the temporary arrangements under which mails were to be sent by such direct steamers, having declared to the contractors, that in giving such assent, it must be distinctly understood that the Postmaster General did not consent to any additional expense in the matter, either by a direct allowance from the department or by favoring any application which might thereafter be made elsewhere for increased compensation for any additional trips they might find it necessary to run.

Statement F is made up from the reports from the contractors themselves; giving the names of the accepted steamers, and of others employed on the line, the tonnage of each, the date of their entering service, &c., which reports are believed to be correct.

The papers marked G and H, respectively, are copies of propositions: the first (received on the 20th of March last) by Cornelius Vanderbilt, offering to take the mails semi-monthly, in six steamships, at $30,000 per annum for the service of each ship, or $180,000 a year for the whole service between New York and San Francisco, in twenty-five days, by the intermediate points, if desired; and the other (received on the 6th inst.) by E. H. Carmick and his associates, to convey the mails, monthly, between New York and San Francisco, in not exceeding eighteen days, and monthly between New Orleans and San Francisco, in not exceeding fourteen days, via Vera Cruz, at $10,000 a trip, or $240,000 a year. It will be observed, however, that neither of these proposals includes any service between San Francisco and Oregon—a part of the route the least productive, in all respects, of any portion of the line covered by the existing contracts.

It may not be improper to remark that this department has no reliable information upon which to found an opinion as to the ability of Mr. Carmick and his associates to perform the service, embraced in their proposals, within the time specified therein. The route proposed is new and untried, and a most important portion of it comparatively unexplored and unknown; but a hope may perhaps be indulged, that the confident expectations of those interested will be realized.

The route upon which Mr. Vanderbilt proposes to carry the mail has been for some time in operation. It is believed that when the improvements now contemplated are completed, the mail can be transported over that route, from San Francisco to New York, in twenty-five days or less, as proposed. It is, however, believed that the shortest trip yet made over that route occupied twenty-six days and eighteen hours, being longer, by some hours, than the shortest trip of the direct mail steamers by the way of the isthmus. The time occupied in making the trips by the isthmus route will be considerably reduced, upon the completion of the railroad now in progress of construction across the isthmus; and the time required for the trip by the Nicaragua route will, in the mean time, also be somewhat reduced. It is therefore probable that, for some time to come, it will be difficult to determine which route will afford the greatest despatch. The experience of the present year will probably determine the question.

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Table "I" is a statement of the amount of postages upon letters, &c., carried over the New York and California lines, in which the whole postage, foreign, sea, and inland, is necessarily included. It is, perhaps, proper to remark, that the receipts of postages have been much less than they otherwise would have been, but for the practice of express agencies in sending letters between New York and San Francisco, out of the mail—a practice that cannot be altogether prevented, unless further provisions of law are enacted, conferring powers of examination and seizure.

In reference to the question, whether it would be for the interest of the government to take the steamships employed in conveying the mails on this line, and pay for them, at this time, I would respectfully state, that in my judgment its proper determination depends in a great degree, if not entirely, upon facts in regard to which I have no official or reliable information—upon the future policy and measures of Congress in respect to ocean mail-steamers—upon the wants of the Navy Department—upon the disposition to be made of the ships referred to, if taken from the contractors—and upon the arrangements which Congress may hereafter make in regard to the mail-service on this line. Presuming that my information in these respects is more limited than that possessed by every member of the Senate—being ignorant of the mutual understandings and just expectations of the contractors and of those who acted on the part of the government at the time the original contracts were made, and therefore unable to determine whether such a proceeding by the government would be entirely consistent with good faith towards the contractors—I trust I may, with propriety, respectfully ask to be excused from giving an opinion which I certainly feel ought not to influence, and which would not influence the judgment of any member of the Senate.

I am, very respectfully, your obedient servant,

N. K. HALL, *Postmaster General.*

Hon. WM. R. KING,
*President of the Senate.*

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AUDITOR'S OFFICE FOR POST OFFICE DEPARTMENT,
*March* 10, 1852.

SIR: In compliance with the request communicated in your note of 5th instant, I submit the accompanying statement, showing the amounts paid for the conveyance of the mails across the Isthmus of Panama, under treaty of the 6th March, 1844, with the New Grenadian government, and the amounts paid the government mail agents taking charge of said mails.

The items numbered 5 and 21 are payments made to the United States consuls and government agents resident at Panama, for services under the postal treaty with the republic of New Grenada; and it is understood that the government of that republic has still further claims for payments under said treaty.

The other items are for salary and subsistence of itinerant agents in charge of the mails, and for expenses incurred in transportation.

Very respectfully,

J. W. FARRELLY, *Auditor.*

The Hon. POSTMASTER GENERAL.

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A.

*Statement showing the amounts paid for the conveyance of the mails across the isthmus of Panama under treaty of the 6th March, 1844, with the New Grenadian government, and the amounts paid the government mail agents taking charge of said mails.*

| Names. | Service. | Amount paid. | Date of last payment. |
|---|---|---|---|
| 1. Joseph F. Atwell | In charge of mails | $70 00 | Feb. 5, 1852 |
| 2. William A. Bayly | do | 2,695 11 | May 17, 1851 |
| 3. W. D. Buck | do | 51 00 | Sept. 25, 1851 |
| 4. John Chapin | do | 618 63 | Feb. 20, 1852 |
| 5. A. B. Corwine | Mails across isthmus | 71,949 81 | Dec. 24, 1851 |
| 6. Stephen J. Dallas | In charge of mails | 111 78 | Nov. 23, 1848 |
| 7. James B. Devoe | do | 146 71 | July 1, 1850 |
| 8. Gouveneur A. Ferris | do | 2,230 84 | Jan. 10, 1852 |
| 9. R. Morgan French | do | 84 00 | Aug. 18, 1851 |
| 10. W. W. Gallaer | do | 56 00 | June 22, 1850 |
| 11. Aug. W. Griswold | do | 455 16 | July 14, 1851 |
| 12. J. F. Griffin | do | 495 25 | Mar. 6, 1852 |
| 13. John Hancock | do | 369 80 | Aug. 18, 1851 |
| 14. G. W. Haskins | do | 200 00 | Jan. 21, 1852 |
| 15. E. B. Higgins | do | 58 00 | Nov. 14, 1850 |
| 16. P. D. Kildruff | do | 139 00 | Feb. 12, 1851 |
| 17. Matthew McLaughlin | do | 80 00 | May 21, 1850 |
| 18. James A. McLaughlin | do | 423 76 | Feb. 19, 1852 |
| 19. A. Clinton McLean | do | 4,408 32 | Jan. 22, 1852 |
| 20. Bannister Midgett | do | 3,168 75 | Dec. 1, 1851 |
| 21. William Nelson | Mails across isthmus | 5,296 62 | Dec. 31, 1849 |
| 22. Daniel Norcross | In charge of mails | 61 80 | Nov. 11, 1850 |
| 23. S. A. Seymour | do | 4,652 59 | Feb. 20, 1852 |
| 24. Joseph Slocum | do | 755 08 | Feb. 20, 1852 |
| 25. William Whitney | do | 2,479 15 | Dec. 5, 1851 |
| 26. John Workman | | 2,725 51 | Sept. 17, 1851 |
| Total | | 108,782 17 | |

Respectfully submitted: J. W. FARRELLY, *Auditor.*

AUDITOR'S OFFICE POST OFFICE DEPARTMENT, *March* 9, 1852.

Hon. N. K. HALL, *Postmaster General.*

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B.

*Statement showing what mails have been sent from the post office, New York city, by vessels belonging to the contractors between New York and Chagres, on the California route, with dates of departure.*

| Names of vessels. | Dates of departure. | Remarks. |
|---|---|---|
| Falcon | 1848.—December 1 | Through-mails. |
| Isthmus | December 26 | do |
| Falcon | 1849.—February 21 | do |
| Falcon | March 8 | do |
| Falcon | April 19 | do |
| Falcon | May 26 | do |
| Falcon | June 28 | do |
| Falcon | August 27 | do |
| Ohio | September 20 | do |
| Ohio | October 16 | do |
| Ohio | November 18 | do |
| Ohio | December 18 | do |
| Ohio | 1850.—January 12 | do |
| Georgia | January 28 | do |
| Ohio | February 18 | do |
| Falcon | February 28 | do |
| Georgia | March 18 | do |
| Ohio | March 28 | do |
| Georgia | April 18 | do |
| Ohio | April 27 | do |
| Georgia | May 18 | do |
| Ohio | May 28 | do |
| Georgia | June 18 | do |
| Ohio | June 28 | do |
| Georgia | July 13 | do |
| Ohio | July 27 | do |
| Georgia | August 18 | do |
| Ohio | August 26 | do |
| Georgia | September 11 | do |
| Ohio | September 26 | do |
| Georgia | October 11 | do |
| Ohio | October 26 | do |
| Georgia | November 11 | do |
| Ohio | November 26 | do |
| Georgia | December 11 | do |
| Falcon | December 26 | do |
| Georgia | 1851.—January 11 | do |
| Ohio | January 25 | do |
| Falcon | January 27 | Havana mail only. |
| Georgia | February 11 | Through-mail. |
| Ohio | February 26 | do |
| Georgia | March 11 | do |
| Ohio | March 26 | do |
| Georgia | April 11 | do |
| Ohio | April 26 | do |
| Georgia | May 12 | do |
| Cherokee | May 26 | do |
| Crescent City | May 28 | Chagres and Kingston mails. |
| Georgia | June 11 | Through-mail. |
| Empire City | June 13 | Chagres and Kingston mails. |
| Cherokee | June 26 | Through-mail. |
| Crescent City | June 28 | Chagres and Kingston mails. |
| Georgia | July 11 | Through-mail. |
| Empire City | July 12 | Chagres and Kingston mails. |
| Cherokee | July 26 | Through-mail. |

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B—*Statement of mails sent*—Continued.

| Names of vessels. | Dates of departure. | Remarks. |
|---|---|---|
| Ohio | 1851.—July 28 | Through-mail. |
| Empire City | August 11 | do |
| Georgia | August 13 | do |
| Cherokee | August 26 | do |
| Illinois | August 28 | do |
| Empire City | September 11 | do |
| Ohio | September 13 | do |
| Georgia | September 26 | do |
| Illinois | September 27 | do |
| Empire City | October 11 | do |
| Ohio | October 13 | do |
| Illinois | October 25 | do |
| Georgia | October 25 | Havana mail only. |
| Cherokee | November 6 | Kingston mail only. |
| Empire City | November 10 | Through-mail. |
| Ohio | November 11 | do |
| Georgia | November 24 | do |
| Falcon | December 1 | Kingston mail only. |
| Cherokee | December 6 | do |
| Empire City | December 9 | Through-mail. |
| Ohio | December 11 | do |
| El Dorado | December 22 | Kingston mail only. |
| Georgia | December 26 | Through-mail. |
| Cherokee | 1852.—January 6 | Kingston mail only. |
| Empire City | January 9 | Through-mail. |
| Ohio | January 10 | do |
| El Dorado | January 22 | Kingston mail only. |
| Georgia | January 24 | Through-mail. |
| Crescent City | February 3 | Kingston mail only. |
| Ohio | February 7 | Havana mail only. |
| Cherokee | February 5 | Kingston mail only. |
| Empire City | February 9 | Through-mail. |
| El Dorado | February 20 | Kingston mail only. |
| Falcon | February 21 | Havana mail only. |
| Georgia | February 24 | Through-mail. |
| Crescent City | March 5 | Kingston mail only. |
| Empire City | March 9 | Through-mail. |
| El Dorado | March 20 | Kingston mail only. |

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B—Continued.

*Statement showing what mails have been received at the post office, New York city, by vessels belonging to the contractors between New York and Chagres, on the California route, with the dates of arrival.*

| Names of vessels. | Dates of arrival. | Remarks. |
|---|---|---|
| Falcon | 1849.—January 24 | Chagres and Havana mail. |
| Falcon | March 5 | do do |
| Falcon | April 14 | do do |
| Falcon | May 17 | do do |
| Falcon | June 19 | Through-mail. |
| Falcon | August 12 | do |
| Ohio | October 13 | do |
| Ohio | November 10 | Havana mail only. |
| Ohio | December 9 | Through-mail. |
| Ohio | 1850.—January 8 | Havana mail only. |
| Ohio | February 9 | Through-mail. |
| Falcon | February 22 | Havana mail only. |
| Georgia | March 9 | Through-mail. |
| Ohio | March 26 | Havana mail only. |
| Georgia | April 9 | Chagres and Havana mail. |
| Ohio | April 24 | do do |
| Georgia | May 7 | Through-mail. |
| Ohio | May 24 | Havana and Chagres mail. |
| Georgia | June 9 | Through-mail. |
| Ohio | June 24 | do |
| Georgia | July 8 | do |
| Ohio | July 24 | do |
| Georgia | August 7 | Havana mail only. |
| Ohio | August 24 | Through-mail. |
| Georgia | September 6 | do |
| Ohio | September 23 | do |
| Georgia | October 7 | do |
| Ohio | October 23 | do |
| Falcon | October 27 | Havana mail only. |
| Georgia | November 7 | Through-mail. |
| Ohio | November 23 | do |
| Georgia | December 7 | do |
| Ohio | December 28 | do |
| Georgia | 1851.—January 6 | do |
| Falcon | January 24 | do |
| Georgia | February 8 | do |
| Ohio | February 22 | do |
| Georgia | March 8 | do |
| Ohio | March 22 | do |
| Georgia | April 7 | do |
| Ohio | April 24 | Havana mail only. |
| Georgia | May 6 | Through-mail. |
| El Dorado | May 17 | Havana mail only. |
| Ohio | May 22 | Through-mail. |
| Empire City | June 3 | do |
| Georgia | June 6 | Chagres and Havana mails. |
| Crescent City | June 19 | Chagres and Kingston mails. |
| Cherokee | June 21 | Through-mail. |
| Empire City | July 6 | do |
| Georgia | July 6 | Chagres and Havana mails. |
| Crescent City | July 20 | Through-mail. |
| Cherokee | July 21 | Havana mail only. |
| Empire City | August 6 | Through-mail. |
| Georgia | August 7 | Chagres and Havana mails. |
| Cherokee | August 21 | Through-mail. |

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B—*Statement of mails received*—Continued.

| Names of vessels. | Dates of arrival. | Remarks. |
|---|---|---|
| Ohio | 1851.—August 29 | Chagres and Kingston mails. |
| Empire City | September 6 | Chagres and Havana mails. |
| Georgia | September 7 | Through-mail. |
| Illinois | September 20 | do |
| Cherokee | September 22 | Havana mail only. |
| Empire City | October 7 | Chagres and Havana mails. |
| Ohio | October 6 | Through-mail. |
| Illinois | October 18 | do |
| Georgia | October 23 | Havana mail only. |
| Cherokee | November 1 | Through-mail. |
| Empire City | November 4 | Havana mail only. |
| Ohio | November 5 | Chagres and Havana mails. |
| Georgia | November 19 | Through-mail. |
| Illinois | November 23 | Havana mail only. |
| Cherokee | November 29 | Through-mail. |
| Empire City | December 6 | Havana mail only. |
| Ohio | December 7 | Chagres and Havana mails. |
| Georgia | December 21 | Through-mail. |
| Cherokee | 1852.—January 1 | do |
| Falcon | January 2 | Kingston and Havana mails. |
| Empire City | January 6 | Chagres and Havana mails. |
| Ohio | January 7 | Havana mail only. |
| El Dorado | January 15 | Through-mail. |
| Georgia | January 20 | Chagres and Havana mails. |
| Cherokee | January 31 | Through-mail. |
| Ohio | February 4 | Chagres and Havana mails. |
| Empire City | February 4 | do do |
| El Dorado | February 16 | Through-mail. |
| Falcon | February 17 | Chagres and Havana mails. |
| Georgia | February 19 | do do |
| Crescent City | February 29 | Through-mail. |
| Empire City | March 6 | Chagres and Havana mails. |
| El Dorado | March 15 | Through-mail. |
| Georgia | March 20 | Chagres and Havana mails. |

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C.

*Arrivals and departures of California steamers at and from New Orleans since the 1st day of July, 1850.*

| DEPARTURES. | | ARRIVALS. | |
|---|---|---|---|
| Names of vessels. | Dates. | Names of vessels. | Dates. |
| | 1850. | | 1850. |
| Ohio | July 14. | Georgia | July 9. |
| Ohio | July 29. | Ohio | July 24. |
| Georgia | August 14. | Georgia | August 7. |
| Ohio | August 27. | Ohio | August 24. |
| Georgia | September 14. | Georgia | September 6. |
| Ohio | September 27. | Ohio | September 23. |
| Ohio | October 13. | Ohio | October 7. |
| Pacific | October 27. | Pacific | October 21. |
| Ohio | November 13. | Ohio | November 6. |
| Pacific | November 27. | Pacific | November 21. |
| Philadelphia | November 30. | Ohio | December 7. |
| Ohio | December 13. | Pacific | December 23. |
| Pacific | December 27. | | 1851. |
| Philadelphia | December 31. | Pacific | January 9. |
| | 1851. | Ohio | January 12. |
| Pacific | January 13. | Philadelphia | January 22. |
| Philadelphia | January 27. | Falcon | February 7. |
| Falcon | February 12. | Georgia | February 17. |
| Falcon | February 27. | Falcon | February 22. |
| Ohio | March 12. | Ohio | March 9. |
| Georgia | March 27. | Georgia | March 22. |
| Ohio | April 12. | Ohio | April 6. |
| Falcon | April 27. | Falcon | April 21. |
| Ohio | May 11. | Ohio | May 6. |
| Georgia | May 27. | Georgia | May 21. |
| Cherokee | June 12. | Cherokee | June 5. |
| Georgia | June 27. | Georgia | June 21. |
| Cherokee | July 12. | Cherokee | July 6. |
| Falcon | July 27. | Falcon | July 22. |
| Cherokee | August 12. | Cherokee | August 5. |
| Empire City | August 27. | Empire City | August 21. |
| Georgia | September 12. | Cherokee | September 4. |
| Empire City | September 27. | Empire City | September 20. |
| Georgia | October 12. | Georgia | October 5. |
| Empire City | October 27. | Falcon | October 31. |
| Pacific | November 9. | Georgia | November 4. |
| Empire City | November 24. | Empire City | November 20. |
| Pacific | December 9. | Pacific | December 5. |
| Empire City | December 24. | Empire City | December 22. |
| | 1852. | | 1852. |
| Philadelphia | January 9. | Philadelphia | January 6. |
| Empire City | January 24. | Empire City | January 20. |
| Philadelphia | February 9. | Philadelphia | February 5. |
| Empire City | February 24. | Empire City | February 21. |
| Cherokee | February 28. | Cherokee | February 27. |

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D.

*Arrivals and departures of the steamers of the Pacific Steamship Company, with the mails between San Francisco and Panama, from January* 1, 1850, *to February*, 1852, *at and from San Francisco.*

| DEPARTURES. | | ARRIVALS. | |
|---|---|---|---|
| Names of vessels. | Dates. | Names of vessels. | Dates. |
| | 1850. | | 1850. |
| Oregon | January 1. | Panama | January 21. |
| California | January 15. | Oregon | February 23. |
| Panama | February 1. | California | March 26. |
| Oregon | March 1. | Tennessee | April 14. |
| California | April 1. | Panama | April 22. |
| Tennessee | April 20. | Carolina | May 7. |
| Panama | May 1. | Oregon | May 21. |
| Oregon | June 1. | California | June 23. |
| California | July 1. | Panama | July 6. |
| Tennessee | July 15. | Oregon | July 21. |
| Panama | August 1. | California | August 23. |
| Carolina | August 15. | Tennessee | September 4. |
| Oregon | September 1. | Panama | September 21. |
| Tennessee | September 15. | Carolina | October 7. |
| California | October 1. | Oregon | October 18. |
| Carolina | October 15. | Tennessee | November 7. |
| Panama | November 1. | California | November 21. |
| Tennessee | November 15. | Carolina | December 8. |
| Oregon | December 1. | | 1851. |
| California | December 15. | Panama | January 2. |
| | 1851. | Tennessee | January 8. |
| Carolina | January 1. | Oregon | January 20. |
| Unicorn | January 15. | California and Constitution | February 14. |
| Tennessee | January 23. | Columbia | February 24. |
| Panama | February 1. | Tennessee | March 4. |
| Oregon | February 15, 16. | Panama | March 21, 22. |
| California | March 5. | Oregon | April 2. |
| Northerner | March 15. | California | April 23. |
| Tennessee | April 1. | Northerner | May 5. |
| Panama | April 15. | Tennessee | May 20. |
| Oregon | May 1. | Panama | June 2. |
| Northerner | May 15. | Oregon | June 19. |
| Tennessee | May 31. | Northerner | July 7. |
| California | June 14. | Tennessee | July 20. |
| Panama | July 1. | California | August 3. |
| Northerner | July 15. | Panama | August 19. |
| Oregon | August 1. | Northerner | September 7. |
| California | August 15. | Oregon | September 18. |
| Tennessee | September 1. | California | October 5. |
| Panama | September 15. | Tennessee | October 17. |
| Oregon | October 1. | Fremont | November 1. |
| California | October 15. | Panama | November 4. |
| Tennessee | November 1. | Golden Gate | November 19. |
| Northerner | November 15. | California | December 2. |
| Republic | December 1. | Carolina | December 13. |
| Golden Gate | December 5. | Tennessee | December 14. |
| Panama | December 16. | | 1852. |
| | 1852. | Northerner | January 1. |
| Oregon | January 1. | | January 10. |
| California | January 16. | Panama | February 3. |
| Tennessee | February 1. | | |
| Panama | February 18. | | |

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## E.

### OREGON SERVICE.

*Arrivals and departures of the mail steamers of the Pacific Steamship Company at and from San Francisco, from Jan. 1 to Dec. 31, 1851.*

| DEPARTURES. | | ARRIVALS. | |
|---|---|---|---|
| Names of vessels. | Dates. | Names of vessels. | Dates. |
| | 1851. | | 1851. |
| (Transient) | January 16. | (Transient) | January 10. |
| Oregon | January 22. | Oregon | February 1. |
| (Transient) | February 18. | (Transient) | February 8. |
| Columbia | March 1. | Do | February 12. |
| Do | March 22. | Columbia | March 9. |
| Do | April 4. | Do | March 31. |
| Do | April 24. | Do | April 11. |
| Do | May 6. | Do | May 1. |
| Do | May 21. | Do | May 14. |
| Do | June 4. | Do | May 30. |
| Do | June 21. | Do | June 12. |
| Do | July 8. | Do | June 29. |
| Do | July 22. | Do | July 15. |
| Do | August 5. | Do | July 30. |
| Do | August 20. | Do | August 13. |
| Do | September 8. | Do | August 27. |
| Do | September 20. | Do | September 16. |
| Do | October 6. | Do | September 27. |
| Do | October 20. | Do | October 13. |
| Do | November 5. | Do | October 27. |
| Do | November 20. | Do | November 12. |
| Do | December 5. | Do | November 30. |
| Do | December 16. | Do | December 12. |
| | | Do | December 28. |

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F.

*Statement of the United States mail steamships on the line between New York and Oregon, their names and tonnage respectively, and the date of their being first placed in service.*

| Names of vessels. | Where employed. | Register tonnage. | Date of commencement. | Remarks. |
|---|---|---|---|---|
| | | *Tons & 95ths.* | | |
| Falcon | Between New York, Havana, New Orleans and Chagres; New York and Chagres, direct; New York and Chagres, touching at Kingston; and between New Orleans and Chagres, direct. | 891 18 | December, 1848 | |
| Ohio | | 2,432 23 | September, 1849 | |
| Georgia | | 2,727 42 | January, 1850 | |
| Crescent City | | 1,291 00 | April, 1851 | |
| El Dorado | | 1,049 88 | April, 1851 | |
| Empire City | | 1,751 21 | May, 1851 | |
| Cherokee | | 1,244 89 | May, 1851 | |
| Illinois | | 2,128 65 | August, 1851 | |
| Philadelphia | | 1,238 10 | October, 1851 | |
| California | Between Panama and Astoria, via San Diego, Monterey, San Francisco, &c. | 1,058 00 | October, 1848 | The Pacific Mail Steamship Company has besides, in the Pacific, seven steamers of different tonnage, but aggregating near 5,000 tons. They transport the mail only when exigencies make its transportation by them necessary or expedient.—*Mr. Aspinwall's report of March* 8, 1852. |
| Oregon | | 1,099 00 | October, 1848 | |
| Panama | | 1,087 00 | November, 1848 | |
| Tennessee | | 1,275 00 | ..... 1849 | |
| Golden Gate | | 2,068 00 | ..... 1851 | |
| Columbia | | 778 00 | ..... 1850 | |



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G.

NEW YORK, *March* 17, 1851.

SIR: About two months since, I made a proposal (in the form of a memorial which was presented to the United States Senate) for the semi-monthly transportation of the mails between New York and San Francisco, and all necessary intermediate points.

The terms of the proposal are embraced in the memorial, a copy of which I herewith enclose, and which I particularly request you to peruse.

Since this proposal was made, I have visited Nicaragua for the purpose of putting a line in operation across that State, and I am now prepared to say—

1st. That in the month of July next I shall have in complete operation a *semi-monthly line* between New York and San Francisco, via Nicaragua.

2d. The ocean steamers which will compose this line on the Atlantic and Pacific oceans will be of the first and best class and quality.

3d. The transit across the Isthmus of Nicaragua will be made as follows:—1st. In steamboats built for the purpose, capable of carrying three hundred passengers each, from the port of San Juan de Nicaragua to the lake of Nicaragua, (90 miles.) 2d. Across the lake in steamboats to the river Lagos, on the western shore, (40 miles;) from thence to the Pacific (12 miles and 30 chains,) by a good road, built for the purpose, to San Juan del Sud, on the Pacific.

4th. The whole distance between New York and San Francisco will be accomplished *in twenty-five days at the farthest*, and to perform the distance within this time I am willing to bind myself with any amount of penalty.

5th. To the above statement I am willing to pledge my reputation; and it is well known to those who know me (and among those is the present Secretary of State,) that I will make no such pledge unless certain of its fulfilment.

As a law was passed at the last session of Congress, (with the details of which I am not familiar,) on the subject of the mail service between New York and California, and under which you will probably be called on to act, I suppose this a fit occasion to make the statement contained in this letter.

Very respectfully, your obedient servant,

C. VANDERBILT.

Hon. N. K. HALL,
*Postmaster General.*

P. S.—A copy of the above I have forwarded to the Secretary of the Navy.

---

*To the Senate and House of Representatives in Congress assembled:*

Your memorialist, Cornelius Vanderbilt, of the city of New York, respectfully represents that he has, for *thirty years* last past, been extensively engaged in the business of building and running steam-vessels, and has, as he believes, an unusual experience in said business.

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Your memorialist has observed, with great satisfaction, the encouragement and aid which the general government has for some time past been extending to private enterprise in the construction of steamships, on condition that the government may, in time of hostilities with any other nation, appropriate such ships to its service; and if it be the object of the government still further to enlarge its steam navy, and for this purpose to avail itself further of private enterprise, your memorialist has a plan to submit, by the adoption of which, as he believes, this object can be accomplished without the government advancing one dollar. His plan is as follows:

1st. He proposes to build and completely equip, *at his own proper cost*, six steamships of the first-class and of the first quality in all respects, and which shall be unsurpassed by any steamships now afloat.

2d. The said ships to be, each, from one to two thousand tons burden, which size your memorialist believes to be best adapted to war purposes.

3d. These ships are to run, in part, between New York and San Juan de Nicaragua, or Greytown, and intermediate points if necessary, and in part between San Francisco and the terminus of the transit route of the "American Atlantic and Pacific Ship Canal Company," on the Pacific ocean, semi-monthly, which transit route will be opened and its terminus designated probably within six months.

4th. All these ships, or either of them, the government shall have the right to call into its own service in case of war, actual or threatened, on payment of the actual cost.

5th. In consideration of this right being granted, the government shall, whenever it can be done consistently with the public interest, transport all the public mails designed for the above named points, on said ships.

6th. Until the transportation of the mails shall be intrusted to your memorialist, the government is to pay nothing; but, dating from the time the transportation may commence, the government shall pay to your memorialist the sum of $30,000 per annum for the service of each ship while he continues to transport the mail, and no longer.

Your honorable bodies will not fail to observe that your memorialist does not ask one dollar from the public treasury except as a reasonable compensation for services when performed. And whether the compensation thus demanded (in case of service rendered) is or is not reasonable, may perhaps be best determined by comparing the total amount thereof with that which the government now pays for similar service.

The advantages secured to the government by the plan which your memorialist has the honor to submit, are:

1st. The transportation of its mails, whenever the public interest requires it, at a cost barely remunerative.

2d. The right to call into the naval service six first-class ships, in case of war, for the construction and maintenance of which it will advance nothing, except in the event of appropriation, and then the actual cost only.

3d. In case of the loss of either of these ships the government will lose nothing, as it will have no property in them; all the expense of building, and all the expense of maintaining them, being borne by your memorialist.

Your memorialist, therefore, commends to your attention the plan above submitted, and prays your honorable bodies to adopt the same, and, by a proper act, to direct the proper officer of the government to enter into a contract with your memorialist; and your memorialist will ever pray, &c.

C. VANDERBILT.

NEW YORK, *December*, 1850.

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H.

*To the Hon. N. K. Hall, Postmaster General:*

The undersigned and his associates respectfully submit to the department the following proposals for the carrying of the United States mail between New York, New Orleans, Vera Cruz, and San Francisco, California.

The undersigned and his associates propose, as soon as practicable, to open a route through Mexico, under a grant from the Mexican government, to Colonel Albert C. Ramsey, a citizen of Mexico, permitting him to transport passengers and all foreign mails through the Mexican territory for fifteen years; this route being the shortest between New York and San Francisco, and between New Orleans and San Francisco—two thousand miles shorter than any other route. The undersigned will therefore agree to transport the mail between the cities of New York and San Francisco, respectively, once in every month, and between New Orleans and San Francisco, respectively, once in every month, making a semi-monthly mail, and will also carry the mail once a month from New York to Vera Cruz, respectively, and from New Orleans to Vera Cruz, once a month, respectively, for the compensation of ten thousand dollars per trip. The undersigned proposes to convey the mail between New York and San Francisco within eighteen days, and between New Orleans and San Francisco in fourteen days; and in case of a failure on the part of the undersigned to transport it between New York and San Francisco within twenty days, and between New Orleans and San Francisco in sixteen days, no compensation will be demanded from the department; an allowance is only asked for in case of an unavoidable detention by accident. If a contract should be entered into between the department and the undersigned, based upon the above proposals, ample security will be given for the fulfilment of the contract for four years. If the undersigned and his associates should deem it advisable to run a weekly line over this route, no extra compensation will be required of the department for carrying a weekly mail. The undersigned and his associates will require no advances or pay from the department until the service is actually performed.

E. H. CARMICK,
*And his associates, of New York city.*

WASHINGTON, *March 5*, 1850.

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I.

*Exhibit of postages (by the New York and California line of steamers) which have accrued quarterly since the commencement of said line.*

| | | |
|---|---|---|
| Postages for quarter ended | December 31, 1848 | $553 08 |
| Do | March 31, 1849 | 4,423 74 |
| Do | June 30, 1849 | 18,658 21 |
| Do | September 30, 1849 | 22,806 78 |
| Do | December 31, 1849 | 47,646 27 |
| Do | March 31, 1850 | 74,757 52 |
| Do | June 30, 1850 | 104,058 33 |
| Do | September 30, 1850 | 129,686 70 |
| Do | December 31, 1850 | 128,774 65 |
| Do | March 31, 1851 | 147,526 89 |
| Do | June 30, 1851 | 125,352 80 |
| Do | September 30, 1851 | 60,860 07 |
| Do | December 31, 1851 | 34,351 22 |
| | | 899,456 26 |

Ex.—10

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32d Congress, 1st Session. [SENATE.] Ex. Doc. No. 51.

# LETTER

FROM

# THE SECRETARY OF WAR,

COMMUNICATING

*A supplemental report of the battle of Cerro Gordo, made by General Pillow to General Scott.*

March 24, 1852.
Ordered to lie on the table and be printed.

War Department,
*Washington, March* 23, 1852.

Sir: In compliance with the resolution of the Senate, of the 22d inst., I have the honor to transmit, herewith, a copy of the supplemental report of the battle of Cerro Gordo, made by General Gideon J. Pillow to General W. Scott.

Very respectfully, your obedient servant,
C. M. CONRAD,
*Secretary of War.*

Hon. William R. King,
*President of the Senate.*

---

Headquarters First Brigade, Volunteer Division,
*May* 29, 1847.

Sir: In the battle of Cerro Gordo I was so severely wounded in the right arm as to be deprived of the use of that arm.

When my report of that action was called for, I was confined to my bed, very sick, and wholly unable to use my right arm.

I was of consequence entirely unfitted for the duty of making out a report of the action of the day, or of giving the subject the consideration which justice to myself and my command equally demanded.

The report which was submitted having been called for on the night after the action, was prepared late at night, in great haste, by an officer of my staff; was imperfect in its details, and was subsequently ascertained to be a little inaccurate in its statement of facts. I therefore submit the following additional report:

My brigade being at the Place del Rio on the morning of the battle, I had to march about five miles over a difficult pathway, winding over the mountains and through the dense chaparral, before I could reach the position in the enemy's line of works designated for the attack by my brigade.

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This position was selected for the assault after four days' laborious reconnoissance, in which Colonel Johnson was twice shot through the body. Lieutenant Tower and myself were shot at repeatedly, and once hotly pursued by a large force of the enemy, and made an exceedingly narrow escape.

The enemy's line of works was a continuous stone breastwork, extending from the river bluff on the right to the national road, with heavy batteries of artillery within protecting distance of each other, and supported by strong forces of infantry armed with musketry, along the whole line of works upon the right.

In front of this line of works, for the distance of 250 or 300 yards, the dense chapparal was cut down and left upon the ground, completely covering the whole face of the earth, and constituting a thorny bush entanglement which it was exceedingly difficult to get through, and impossible to pass over—standing, as it did, about waist-high upon the ground; outside of this stood the standing chapparal, so dense and full of thorns, that we were obliged to cut our way through it with bill-hooks.

On the extreme right of this line of works was battery No. 1, mounting six pieces of artillery; on the left of my position was battery No. 2, with four pieces of artillery. These guns were so mounted as to enfilade the line of works, and sweep the entire open space in front. At the angle between the works no guns could be seen, after the most careful reconnoissance by those able and fearless officers of the engineer corps, and myself; none were believed to be there. This position was therefore selected as the point of assault for my command.

By the general order of battle, the assault by my brigade was to commence in front, simultaneously with the assault in the rear by the main army. The hour fixed upon for the battle to commence was ten o'clock. The battle having commenced at half-past eight o'clock, I had not, and could not reach the position for assault by my command until the forces in the rear had been hotly engaged for some twenty minutes.

Upon arriving at my position for assault, I commanded the formation of my assaulting forces without the loss of a moment's time. I had myself placed Colonel Haskell's regiment in position for the assault upon the left side of the angle; had placed Colonel Roberts's regiment (the supporting force of Haskell's regiment) in position a short distance in the rear; had ordered Wynkoop's regiment, the advance of the other assaulting party, to its position, and it was on its way to its position with Colonel Campbell's regiment, as its supporting force; when the enemy, discovering our position and movements, directed a most galling fire into the command. This fire was so destructive that it would have swept away my entire command, had it remained in its position even long enough to have completed the formation of the forces for the assault. Owing to the impenetrable chapparal which covered the whole face of the country, it was equally impossible to fall back and complete the movement, even if such a movement would not have thrown the force entirely out of position. Seeing that no alternative was left me but to retreat with the whole command in the face of the enemy's fire, and break up the order of battle and violate the orders of the General-in-chief, and thus bring disgrace upon the whole command, or to dash rapidly forward upon the enemy's works with the foroes which were in position, I instantly sent my aid-de-camp, Lieutenant Rains, with orders to bring Colonel Roberts's regiment as quickly as possible to the support of

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Colonel Haskell, and directed this last regiment to charge the enemy's works. I also sent my acting aid-de-camp, Lieutenant Anderson, to Colonel Wynkoop, with orders for a similar movement upon the work in front of his position, being on the opposite side of the same angle. Haskell's regiment dashed nobly forward, with a shout of enthusiasm.

I then turned across the line of fire, and parallel to the line of works, to lead, in person, the forces of Wynkoop's assaulting party; but, in crossing the line, the fire was so terrible that it swept down every thing before it; in an instant cutting down myself and every officer and private in my immediate neighborhood, except my aid-de-camp, Lieut. Rains, who had returned to his position.

Recovering from the shock of the canister shot with which I was wounded, I passed as rapidly forward as possible towards the head of Wynkoop's command; but becoming faint from loss of blood, and unable to proceed for the moment, I was overtaken by Colonel Campbell's regiment. I advised Colonel Campbell that I was wounded, and was unable to go forward at that moment, and directed him to go forward, to assume the advance, and to carry the works.

Whilst Campbell's regiment was passing me, Colonel Haskell, in person, reported to me that his command was cut to pieces, and had lost nearly all its officers, and had fallen back; and that Colonel Roberts had not come to his support, as he was ordered to do.

I ordered him to return to his command, to rally his forces, and bring them upon the hill, and form immediately with the balance of the command; that I would assault the left side of the angle with my whole force.

This order was promptly obeyed; and when I reached the command upon the hill I immediately put the whole force in order, (Campbell's regiment being in advance,) and ordered the charge, when the enemy ran up the white flag upon the works I was assaulting, upon which I suspended the onward movement, until I could ascertain the object of the enemy. Whilst in this position, and waiting for this purpose, I received orders from the commander-in-chief to suspend all further operations.

During this engagement, in which my command suffered most severely, as you will have seen from my first report, the enemy was discovered to have had eleven, instead of seven, pieces of artillery in our front, mounted in embrasure behind the stone wall, and covered with brush, so as completely to conceal them, until they let loose a most terrific fire upon my command, of grape and canister, and a supporting force of two thousand musketry.

A fire from this force, within the distance of point-blank shot, at my advancing forces, impeded in its advance by the brush entanglements in front, with the six pieces of artillery upon the right and four upon the left, flanking the line of works and sweeping over the open space in front of the works, rendered the enemy's works at this place almost impregnable; and, though I had renewed the assault and ordered the charge, and would have carried the works if the whole command had not been cut to pieces, yet it must be manifest it would have been at dreadful loss of life.

After the action had ceased, Colonel Roberts reported to me, that in going to the support of Colonel Haskell his regiment was exposed to such a galling fire from the grape and canister which swept down the hill he was ascending, and enfiladed his line, (marching, as it was obliged to do, by the flank,) that his line waved out of the path around the brow of the hill, but was

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still moving up to Haskell's support, as rapidly as the difficulties of the position and the denseness of the chapparal would admit of.

It is due, as well to Colonel Roberts as to his fine regiment, to say, that I saw nothing in his conduct, or that of his regiment, which ought or should reflect in the least upon its gallantry.

The whole command was exposed to a most destructive fire; and though this regiment did not come up to Colonel Haskell's support, as it was ordered, yet, as the commanding general of the brigade, I was present in person with the advancing forces, seeing and feeling the terrible fire, which swept through and cut down the command like a whirlwind, of grape and canister, and I cannot doubt its courage, or that of any other portion of my command.

I deemed it my duty to make this detailed report, to place in your possession, and that of the government, the true character of the work assaulted; and also due as an act of justice to a portion of the troops of my command.

Lieut. Colonel Cumming and Major Ferguson, who were wounded, acted with distinguished gallantry; Lieut. Nelson, who commanded the rifle guard, fell, nobly leading forward his finely disciplined company; Lieut. Tearwood, who fell mortally wounded, charged with great daring.

Captain Williams's company of Kentucky volunteers distinguished itself in a charge, in which the gallant captain lost, in killed and wounded, his lieutenant and nearly the half of his command, and received several ball-holes through his cap and clothes. Adjutant Hale, who died of the wound received, also distinguished himself by his daring and gallant conduct.

I could, and should, perhaps, pass through the long list of officers of my command, and justly pass encomiums upon all the living; but duty compels me to pay this tribute of respect to the dead and wounded.

Very respectfully, your obedient servant,

G. J. PILLOW,
*Brigadier General United States Army.*

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# MESSAGE

FROM THE

# PRESIDENT OF THE UNITED STATES,

COMMUNICATING,

*In answer to a resolution of the Senate, calling for information in relation to the extension of the Capitol, a report of the Secretary of the Interior.*

March 29, 1852.

Read, referred to the Committee on Public Buildings, and ordered to be printed.

*To the Senate of the United States:*

In compliance with the resolution of the Senate of the 24th inst., relating to the extension of the Capitol, I have the honor to submit, herewith, a report from the Secretary of the Interior, which furnishes, it is believed, the required information.

MILLARD FILLMORE.

Washington City, *March* 29, 1852.

Department of the Interior,
*Washington, March* 27, 1852.

Sir: I have the honor to submit to you, herewith, a report from Thomas U. Walter, the architect appointed pursuant to the provisions of the act of Congress, approved 30th September, 1850, which, it is believed, embodies all the information called for by the Senate resolution of the 24th inst., respecting the extension of the Capitol.

I am, sir, with much respect, your obedient servant,

ALEX. H. H. STUART, *Secretary.*

To the President of the United States.

Architect's Office, U. S. Capitol,
*Washington, D. C., March* 27, 1852.

Sir: The enclosed copy of a resolution of the Senate of the United States, relating to the extension of the Capitol, passed on the 24th inst., having been transmitted to me, by your directions, with a request that I

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would report thereon, I respectfully proceed to furnish the required information.

The plan which has been adopted by the President for the extension of the Capitol is represented by a series of architectural drawings, a perspective view, and a model of the buildings; all of which are in this office, and which I will cause to be deposited in the Senate chamber, or such adjacent apartment as may be indicated by the Committee on Public Buildings, whenever so directed.

"The money already appropriated for the extension of the Capitol has been expended," under instructions from the Department of the Interior: a copy of said instructions being hereunto annexed, marked A.

An account-current, showing "the amount paid to each individual, and for what object or purpose," is annexed, marked B; appended to which is a copy of an official letter from the Comptroller of the Treasury, announcing the settlement of the accounts, up to the close of the year. The bills which have since been paid are shown on the said account, from which it will be seen that "the amount of the appropriation unexpended" at this date is $540 03.

It will be observed, that the whole amount placed to my credit is $99,308 27, a portion of the appropriation, amounting to $691 73, having been applied to defraying the expenses of founding the building, under your immediate directions, before the disbursements were placed in my charge.

"Copies of all the written contracts entered into from the beginning of the work to the present time, for materials or workmanship which have heretofore been, or are hereafter to be furnished or done," are appended to this report.

No "verbal agreements" of any kind have been made.

"The materials proposed to be used in the construction of the *exterior* walls and porticos of the Capitol" are granite for the sub-basement, and white marble for the superstructure.

The granite will be obtained from the quarries at Richmond, Virginia, as per contract annexed, and the specifications attached thereto.

The marble is to be supplied from the Lee quarries, Berkshire, Massachusetts, as per contract appended, and the specifications thereto annexed. This being the most important contract to be made, a commission of scientific gentlemen attached to government was appointed to test the several specimens offered. The result of their experiments proved this marble to possess an almost unparalleled resistance to pressure, and a higher specific gravity than any other. These facts, considered in connexion with its exceeding beauty, and the comparatively low prices for which it is obtained, made it desirable to secure it for the facings of the whole exterior of the buildings, so as to insure a uniformity of appearance throughout. A contract was accordingly entered into to that effect; not, however, without a proviso that the said contract is not binding on government, except so far as Congress may see proper to make the necessary appropriations for carrying on the work. If they should fail so to do, this, with the rest of the contracts, would become null, as will be seen by referring to the documents themselves, which are hereto appended.

I shall deposite in the Senate chamber specimens of the marble and granite upon which these contracts are founded. All the contracts are limited to the work proposed to be done during the present year, except the marble.

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In the construction of the "*interior*" walls and arches, it is proposed to use hard-burnt bricks, laid in cement.

It is designed to construct "the frame-work of the roofs" of wrought-iron, and to *cover* them with copper.

No plan for "lighting" the buildings has yet been adopted, any farther than to provide for the introduction of the main pipes for conducting the gas to the several stories. The details of the lighting being a subject that can better be decided on when the buildings are under roof, it has been deemed proper to defer its consideration for the present, except so far as it relates to the introduction of the mains referred to.

The plan proposed for "warming and ventilating the several apartments," and the "plan of construction adopted with reference to the principles of acoustics," are described in my annual report, (Ex. Doc., Senate, No. 33, pages 4 and 5,) a copy of which is hereto annexed.

Having answered all the inquiries contained in the resolution referred to, I have the honor to remain, very respectfully, your obedient servant,

THO. U. WALTER,
*Architect of the extension of the U. S. Capitol.*

Hon. ALEX. H. H. STUART,
*Secretary of the Interior.*

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A.

DEPARTMENT OF THE INTERIOR,
*Washington, July* 21, 1851.

SIR: As the law authorizing the extension of the Capitol makes the architect the disbursing agent, you are requested to give bond, in the sum of $30,000, as security for whatever moneys may be intrusted to you in carrying on the work.

You are authorized to employ a clerk, at a salary not exceeding $1,200 per annum, whose duty it shall be to open and keep a set of books expressly for the work of the extension of the Capitol, and to perform all the duties that pertain to the office of clerk, in connexion with your office, under your own direction and supervision.

You are to employ a general superintendent of the work, at a salary not exceeding $2,000 per annum, whose duty it shall be to superintend all the day-workmen employed at the work; to appoint all foremen, with your advice and consent; to cause all such foremen to keep accurate accounts of the time the men under their supervision are employed, and to make their affidavits, on their respective pay-rolls, of the correctness of the same. The said general superintendent to have also a general supervision of every part of the work; to see that all contracts are faithfully executed, and that no fraud nor deception is practised in the delivery of materials. He is to be entirely under your control and direction; and whenever any delinquencies or improprieties may occur with any of the contractors or under-officers, he is to report the same to you in writing.

You are authorized to make such appointments of under-officers as you may deem necessary for the proper execution of the work.

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You are to make all contracts for work and materials, with the advice and approval of this department.

You are to pay all bills for work and materials, after having carefully examined and approved them; the said bills having been first examined and attested by the superintendent.

I am, sir, very respectfully, your obedient servant,

ALEX. H. H. STUART, *Secretary.*

THOS. U. WALTER, Esq.,
*Architect of the Capitol.*

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B.

# ACCOUNT CURRENT

FROM

AUGUST 2. 1851, TO MARCH 27, 1852.

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DR. *The United States in account with Thomas U. Walter,*

| | | |
|---|---|---|
| 1851. | | |
| Aug. 2 | To cash received from Treasury Department on requisition of July 28, 1851 | $20,000 00 |
| Sept. 24 | To cash received from Treasury Department on requisition of September 25, 1851 | 20,000 00 |
| Oct. 15 | To cash received from Treasury Department on requisition of October 15, 1851 | 20,000 00 |
| Nov. 5 | To cash received from Treasury Department on requisition of November 5, 1851 | 20,000 00 |
| Dec. 8 | To cash received from Treasury Department on requisition of December 8, 1851 | 19,308 27 |
| | Amount carried forward | 99,308 27 |

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| 1851 | | |
|---|---|---|
| Aug. 2 | By cash paid days' workmen, as per pay-roll for July | $2,970 65 |
| | cash paid Amie B. Young, model of his plan for extension of United States Capitol | 304 50 |
| | cash paid Mrs. M. A. Locke for making awning for ceremonies for laying corner-stone | 3 00 |
| | cash paid Joseph Swigert, hauling stone | 5 00 |
| | cash paid Timms & Hammill, smithing | 18 19 |
| | cash paid P. A. Byrne, smithing | 17 96 |
| | cash paid J. W. Martin, smithing | 5 00 |
| | cash paid James A. Wise, smithing | 48 25 |
| | cash paid Clagett, Newton, May, & Co., for osnaburg for awning for ceremonies of laying corner-stone | 18 50 |
| 9 | By cash paid James Bowdon, days' work | 14 00 |
| | cash paid W. Easby, Commissioner of Public Buildings, for sundry payments, from June 24 to August 1, 1851, made before the work was placed in the hands of the architect, to wit: | |
| | James Fitzgerald, for rope $39 72 | |
| | H. N. & J. W. Easby, for foundation stone 181 75 | |
| | Carpenters, per P. Slight's roll 58 40 | |
| | Laborers, per Wise's roll 158 25 | |
| | Laborers, per Prather's rolls, viz: $238 & $171 404 00 | |
| | J. V. N. Throop, engraving plate for corner-stone 18 00 | |
| | J. F. Timms, repairing tools for Prather 12 50 | |
| | C. L. West, sundries for corner-stone 49 17 | |
| | M. Cullane, for 9½ days' labor 9 50 | |
| | C. Buckingham, repairing hinges for temporary gate 1 98 | |
| | N. Acker, cutting corner-stone 18 12 | |
| | Stone-cutters and laborers, per R. Brown's roll 74 81 | |
| | W. J. Fitzpatrick, service in office preparatory to extension of Capitol 45 00 | |
| | Carpenters, per Stewart's roll, putting up fences and removing walls, &c 56 50 | |
| | | 1,127 70 |
| 11 | By cash paid John Purdy, lumber | 182 50 |
| 21 | By cash paid Z. W. Denham, salary as clerk, due this day | 100 00 |
| 22 | By cash paid A. W. Denham, lime | 6 00 |
| 28 | By cash paid H. N. & J. W. Easby, foundation stone | 190 35 |
| Sept. 2 | By cash paid days' workmen, as per pay-roll for August | 3,592 92½ |
| 3 | By cash paid P. A. Byrne, smithing | 120 43½ |
| 4 | By cash paid F. A. Lutz, traces for backbands, &c., used in excavating cellars | 13 00 |
| | cash paid A. N. Clements, sand | 157 57½ |
| | cash paid Donelson & Armstrong, advertising proposals | 3 00 |
| 6 | By cash paid J. W. Martin, smithing | 130 14 |
| 9 | By cash paid J. S. Piper, foundation stone | 5,625 00 |
| 11 | By cash paid John Purdy, lumber | 364 21½ |
| 13 | By cash paid John Hollohan, work on pilaster, Capitol | 300 00 |
| | cash paid John Reese, water-pipes | 198 85 |
| 20 | By cash paid Z. W. Denham, salary as clerk, to 21st September | 100 00 |
| 23 | By cash paid A. W. Denham, lime and cement | 567 00 |
| 24 | By cash paid Samuel Strong, salary as superintendent to 22d September | 333 33 |
| | cash paid A. N. Clements, sand | 172 42½ |
| 30 | By cash paid Thomas U. Walter, salary, due 11th instant | 1,125 00 |
| Oct. 2 | By cash paid days' workmen, as per pay-roll, September, 1851 | 7,581 44 |
| 3 | By cash paid George Shafer, cement | 939 08 |
| | cash paid J. S. Piper, foundation stone | 11,250 00 |
| | cash paid P. A. Byrne, smithing | 148 63 |
| | cash paid J. W. Martin, smithing | 101 37½ |
| | Amount carried forward | 37,835 01½ |

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DR. ACCOUNT—Continued.

| | | |
|---|---|---|
| 1851. | To amount brought forward ..... | $99,308 27 |
| | | 99,308 27 |

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ACCOUNT—Continued. CR.

| | | |
|---|---|---|
| 1851. | Amount brought forward | $37,835 01¼ |
| Oct. 4 | By cash paid C. Buckingham, smithing | 4 00 |
| 6 | By cash paid A. N. Clements, sand | 262 35 |
| | cash paid Edwin Green, lumber | 34 57 |
| 16 | By cash paid A. E. Smoot, lime | 100 00 |
| 21 | By cash paid Z. W. Denham, salary as clerk, to 21st October | 100 00 |
| | cash paid Samuel J. Seely, lime | 1,198 08 |
| Nov. 1 | By cash paid days' workmen, as per pay-roll, October, 1851 | 11,090 01 |
| 3 | By cash paid Philip Gormley, hauling freestone | 30 00 |
| | cash paid A. N. Clements, sand | 418 68¾ |
| 4 | By cash paid J. S. Piper, foundation stone | 8,100 00 |
| 11 | By cash paid John Purdy, coal for office | 16 00 |
| | cash paid John Purdy, lumber | 559 10 |
| | cash paid Walker, Jones, & Co., lumber | 516 22 |
| | cash paid A. N. Clements, sand | 214 91 |
| 13 | By cash paid J. S. Piper, foundation stone | 5,400 00 |
| | cash paid Samuel Champion, smiths' tools | 21 62 |
| 18 | By cash paid John Tretler, portfolios for drawings | 20 00 |
| 21 | By cash paid Z. W. Denham, salary as clerk, to 21st November | 100 00 |
| | cash paid A. N. Clements, sand | 149 32 |
| | cash paid Samuel Strong, salary as superintendent, to 22d November | 833 33 |
| | cash paid John Wagner, perspective drawing, frame for | 5 00 |
| Dec. 1 | By cash paid days' workmen, pay-roll for November, 1851 | 10,826 68 |
| 3 | By cash paid Sandy Webster, hack hire for commission for testing marble | 55 00 |
| 4 | By cash paid P. A. Byrne, iron and steel | 494 78 |
| 9 | By cash paid K. H. Lambell, bricks | 108 00 |
| | cash paid Thos. U. Walter, travelling expenses in visiting marble quarries, by order of Department of Interior | 106 75 |
| | cash paid Z. W. Denham for cash paid to sundry persons for services in attending commission for testing marble | 32 37 |
| | cash paid J. S. Piper, foundation stone | 6,075 00 |
| 10 | By cash paid W. H. Gunnell, sand | 33 32 |
| | cash paid W. H. Gunnell, sand | 304 50 |
| | cash paid Robert Brown, iron work for derrick | 17 25 |
| | cash paid A. N. Clements, sand | 403 20 |
| 13 | By cash paid T. U. Walter, salary as architect, due 11th instant | 1,125 00 |
| | cash paid A. W. Denham, lime | 255 00 |
| | cash paid Gales & Seaton, advertising for proposals | 37 00 |
| 15 | By cash paid J. F. Brown, cast-iron pipes | 709 90 |
| 19 | By cash paid Samuel Strong, expenses in visiting granite quarries near Richmond, Va., by order of the architect | 18 50 |
| 20 | By cash paid Stephen Costar, bricks | 162 66 |
| | cash paid John T. Towers, printing specifications for granite and marble work | 18 00 |
| 22 | By cash paid Z. W. Denham, salary as clerk to 21st December | 100 00 |
| 27 | By cash paid Gilbert Cameron, stonecutting for commission testing marble | 30 81 |
| | cash paid A. N. Clements, sand | 382 20 |
| | cash paid George Shafer, cement | 377 43 |
| 29 | By cash paid Sandy Webster, hack-hire for the commission testing marble | 27 00 |
| 30 | By cash paid John Purdy, lumber | 311 74 |
| | cash paid John Purdy, coal | 19 00 |
| 31 | By cash paid W. Cowles, services in marble experiments | 114 00 |
| | cash paid Dyer & McGuire, old carpets for office | 38 50 |
| | cash paid days' workmen, as per pay-roll for December, 1851 | 7,121 48 |
| | | 95,813 28½ |
| 1852. Jan. 1 | Balance unexpended | 3,494 98½ |
| | | 99,308 27 |

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DR. ACCOUNT—Continued.

| | | |
|---|---|---|
| 1852. Jan. 1 | To balance unexpended | $3,494 98 |
| | | 3,494 98 |
| Mar. 27 | For balance unexpended | 540 03 |

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ACCOUNT—Continued. Cr.

| | | |
|---|---|---|
| 1852. | | |
| Jan. 7 | By cash paid John Pettibone, ice used by commission in testing marbles | $21 00 |
| | cash paid John Pettibone, ice for office | 6 81 |
| 8 | By cash paid Donelson & Armstrong for advertising for proposals | 22 75 |
| 15 | By cash paid A. M. McGregor, office furniture | 45 68 |
| | cash paid James Skirving, stoves, pipes, and fixtures for office | 26 49 |
| | cash paid A. Hoerricks, plumbing | 2 00 |
| 21 | By cash paid Z. W. Denham, salary to 21st January | 100 00 |
| 23 | By cash paid W. Cowles, incidental expenses in testing marble | 31 71 |
| 26 | By cash paid W. T. Porter & Brother, painting | 6 00 |
| | cash paid Samuel J. Seely, lime | 52 00 |
| | cash paid F. Y. Naylor, tin case and watering pots used on walls | 10 50 |
| Feb. 2 | By cash paid W. Wurdeman, drawing implements | 17 25 |
| 12 | By cash paid Dennis Dunn, wheelbarrows | 11 00 |
| 21 | By cash paid Z. W. Denham, salary as clerk to 21st of February | 100 00 |
| Mar. 11 | By cash paid Thomas U. Walter, salary as architect, due this day | 1,125 00 |
| 20 | By cash paid Z. W. Denham, salary as clerk to 21st March | 100 00 |
| 22 | By cash paid Samuel Strong, salary as superintendent to March 22 | 666 66 |
| 27 | By cash paid days' workmen, as per pay-roll for January | 610 10 |
| | | 2,954 95 |
| | Balance unexpended | 540 03 |
| | | 3,494 98 |

THO. U. WALTER,
*Architect of the Extension of the United States Capitol.*

ARCHITECT'S OFFICE,
*Washington, D. C., March 27, 1852.*

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*Copy of a letter from the Comptroller of the Treasury.*

TREASURY DEPARTMENT,
*Comptroller's Office, February* 10, 1852.

SIR: Your account for the extension of the Capitol, from August 2d to the 31st of December, 1851, has been adjusted at the treasury, and a balance of $3,494 98 found to be due from you to the United States, which agrees with your account.

Very respectfully,
ELISHA WHITTLESEY,
*Comptroller.*

THOMAS U. WALTER, Esq.,
*Architect for the Extension of the Capitol.*

---

*Agreement between James S. Piper, quarryman, of Baltimore city, Maryland, of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver, at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site for the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

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And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed, by the said parties, this first day of August, 1851, as witness their seals.

JAMES S. PIPER, [L. S.]
THO. U. WALTER. [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM,
THOMAS WALTER.

—

*Schedule referred to in the within agreement.*

The party of the first part to deliver at his own proper cost, at the work of the extension of the United States Capitol—

Five thousand perches of *select* building-stone, measuring from three to six feet in length, and not less than two feet in width, with good natural beds;

Five thousand perches of large building-stone, from two to three feet in length; and

Five thousand perches of the best building-stone of ordinary dimensions.

The whole to be delivered on or before the first day of December, 1851, at such times and in such quantities as the party of the second part may direct, and to be subject to his inspection and approval.

All the said stone to be measured in the wall when laid, and twenty-five cubic feet to be allowed to the perch.

The party of the *second* part to pay the party of the *first* part the average price of two dollars and twenty-five cents per perch, for every perch of stone delivered, measured and approved as aforesaid, and the payments to be made on the delivery, measurement, and approval, of every two thousand perches.

JAMES S. PIPER, [L. S.]
THO. U. WALTER. [L. S.]

—

*Know all men by these presents,* That we, John B. Morrell and Bartlet Smith, both of the city of New York, and James S. Piper, of the city of Baltimore, are held and firmly bound unto the United States of America,

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in the full and just sum of twenty thousand dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this eighth day of August, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound James S. Piper, his heirs, executors or administrators, do and shall well and truly execute a contract which the said James S. Piper entered into with Thomas U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver, at the work of the said extension of the United States Capitol, fifteen thousand perches of building-stone, at the average price of two dollars and twenty-five cents per perch, of twenty-five cubic feet each—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

JOHN B. MORRELL, [L. S.]
BARTLET SMITH. [L. S.]

Signed, sealed, and delivered, in presence of
O. S. SAMUELS,
W. H. STOGDILL,
*Of the city of New York.*

I certify that I have examined into the sufficiency of Bartlet Smith, one of the sureties to the foregoing bond, and am of opinion that he is ample secu-rity for the amount of twenty thousand dollars.

J. PRESCOT HALL,
*U. S. Attorney Southern District of N. Y.*

NEW YORK, *August* 12, 1851.

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*Agreement between Samuel J. Seely, lime merchant, of New York city, of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site for the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in

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the said schedule mentioned, at such times and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part; or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands, until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be, in all its parts, subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then, and in such case, the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed, by the said parties, this second day of August, 1851, as witness their seals.

SAML. J. SEELY, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
EDWARD CLARK,
CLEMENT L. WEST.

—

*Schedule referred to in the within agreement.*

The party of the first part to deliver on the grounds of the aforesaid United States Capitol, at Washington, D. C., at his own proper cost, 3,000 barrels of lime, from Seely's mountain, burnt entirely with wood, without

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the use of any coal in any way whatever; the said lime to be delivered before the first of December next, if required, at such times and in such quantities as may be directed by the party of the second part, and to be subject to his inspection and approval.

The party of the second part to pay to the party of the first part, the sum of one dollar and thirty cents for every barrel of lime that shall weigh 260 lbs. nett, delivered in accordance with this contract; understanding that twelve and a half cents is to be deducted for every barrel which shall be returned to the party of the first part in good order; payments to be made quarterly.

SAML. J. SEELY, [L. S.]
THO. U. WALTER. [L. S.]

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*Know all men by these presents*, That we, Samuel J. Seely, John B. Webb, and Patrick Henry, all of the city of New York, are held and firmly bound unto the United States of America in the full and just sum of two thousand dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors, and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this eighth day of August, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound Samuel J. Seely, his heirs, executors, or administrators, do and shall well and truly execute a contract which the said Samuel J. Seely has entered into with Thomas U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver at the grounds of the United States Capitol, Washington, 3,000 barrels of Seely's mountain lime, at the rate of one dollar and thirty cents per barrel of 260 lbs. net, with a reduction of twelve and a half cents for every barrel returned in good order—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

SAML. J. SEELY, [L. S.]
J. B. WEBB, [L. S.]
PATRICK HENRY. [L. S.]

Signed, sealed, and, delivered in presence of
S. SAMUELS.

---

*Agreement between Aloysius N. Clements, dealer in building-sand, of Washington, D. C., of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States in the erection of the extension of the Capitol, witnesseth*:

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of

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the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site for the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay to the parties of the first part the sums and prices in the said schedule mentioned, at such time and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null: and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided, also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed by the said parties, this twelfth day of August, one thousand eight hundred and fifty-one, as witness their seals.

A. N. CLEMENTS, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
CLEMENT L. WEST,
W. J. FITZPATRICK.



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*Schedule referred to in the within agreement.*

The party of the first part to deliver fifty thousand bushels of clean, sharp river sand, on the grounds of the work of the extension of the United States Capitol, on or before the first day of December next, if required, at such times and in such quantities as may be directed, subject to the inspection and approval of the party of the second part.

The party of the second part to pay to the party of the first part, at the rate of two and three-quarter ($2\frac{3}{4}$) cents per bushel, for all of the aforesaid fifty thousand bushels of sand, delivered in accordance with this contract: payment to be made on the monthly pay-days of the workmen.

A. N. CLEMENTS, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
CLEMENT L. WEST,
W. J. FITZPATRICK.

---

*Know all men by these presents*, That we, James F. Clarke, dry goods merchant, and B. H. Clements, painter and glazier, of Washington, D. C., are held and firmly bound unto the United States of America, in the full and just sum of one thousand dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this twelfth day of August, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound Aloysius N. Clements, his heirs, executors or administrators, do and shall well and truly execute a contract which the said Aloysius N. Clements has entered into with Thomas U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver at his own proper cost, at the grounds of the extension of the United States Capitol, fifty thousand bushels of clean, sharp river sand, at the rate of two and three-quarter ($2\frac{3}{4}$) cents per bushel—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

JAMES F. CLARKE, [L. S.]
B. H. CLEMENTS, [L. S.]

Signed, sealed, and delivered, in presence of
N. H. STARBUCK,
JAMES DALY.

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*Agreement between George Shafer, dealer in cement, of Funkstown, Washington county, Maryland, of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site for the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workmanlike manner, to do, execute, and perform, the office, work, and labor in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

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Thus covenanted and agreed, by the said parties, this twenty-second day of August, one thousand eight hundred and fifty-one, as witness their seals.

GEO. SHAFER, [L. s.]
THOS. U. WALTER, [L. s.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM.

---

*Schedule referred to in the within agreement.*

The party of the first part to furnish and deliver to the party of the second part, as before mentioned, one thousand barrels of the best hydraulic cement, to be delivered in barrels at such times and in such quantities as the party of the second part may direct.

The party of the second part to pay to the party of the first part, one dollar and seventeen cents for every barrel of cement delivered according to this contract, and approved by the general superintendent, understanding that each and every barrel so delivered shall weigh at least three hundred pounds net weight.

Payment to be made on the first day of every month, or at such times as may be convenient to the parties.

GEORGE SHAFER, [L. s.]
THOS. U. WALTER, [L. s.]

---

*Know all men by these presents,* That we, George Shafer, dealer in cement, of Funkstown, Washington county, Maryland, and George Waters, of Georgetown, District of Columbia, are held and firmly bound to the United States of America in the full and just sum of five hundred dollars, lawful money of the United States, to be paid to the United States or to its proper agent or attorney duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this twenty-second day of August, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound George Shafer, his heirs, executors or administrators, do and shall well and truly execute a contract which the said George Shafer has entered into with the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver at the grounds of the United States Capitol, Washington, one thousand barrels best hydraulic cement, at one dollar and seventeen cents per barrel of three hundred pounds net weight—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

GEO. SHAFER, [L. s.]
GEO. WATERS, [L. s.]

Signed, sealed, and delivered, in presence of
S. G. WATERS.

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*Agreement between Christopher Adams, brickmaker, of Albany, New York, of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site for the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

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Thus covenanted and agreed, by the said parties, this 25th day of November, 1851, as witness their seals.

CHRISTOPHER ADAMS, [L. s.]
THO. U. WALTER. [L. s.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM,
SAML. STRONG.

—

*Schedule referred to in the within agreement.*

5,000,000 hard-burnt bricks, made of tempered clay, to conform in dimensions to the municipal laws of the city of Washington, and to be made in every respect according to said laws.

The delivery of said bricks to commence on the first day of March, eighteen hundred and fifty-two, (1852,) and to be continued as rapidly as may be required for the work.

The sum of six dollars and thirty seven cents ($6 37) to be paid by the party of the second part to the party of the first part, for every thousand bricks delivered in accordance with this contract, provided the same shall be of the best quality, and to the entire satisfaction of the party of the second part.

Payments to be made on or about the first day of every month, if so required by the party of the first.

CHRISTOPHER ADAMS, [L. s.]
THO. U. WALTER. [L. s.]

—

*Know all men by these presents*, That we, Christopher Adams, brickmaker, of Albany, New York, and R. W. Latham, banker, of Washington city, in the District of Columbia, are held and firmly bound unto the United States of America, in the full and just sum of ten thousand dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney duly authorized to receive the same: to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this twenty-fifth day of November, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound Christopher Adams, his heirs, executors or administrators, do and shall well and truly execute a contract which the said Christopher Adams has entered into with the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver at his own proper cost, at the grounds of the extension of the United States Capitol, Washington, D. C., 5,000,000 hard-burnt bricks, made of tempered clay, to conform in dimensions to the municipal laws of the city of Washington, and to be made in every respect according to said laws, at six dollars and thirty-seven cents per thousand—the said contract

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being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

CHRISTOPHER ADAMS, [L. S.]
R. W. LATHAM. [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM,
SAML. STRONG.

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*Agreement between Aloysius N. Clements, dealer in building-sand, of Washington, D. C., of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the sight of the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times and in such manner as are herein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress, passed on

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the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed, by the said parties, this twenty-eighth day of November, 1851, as witness their seals.

A. N. CLEMENTS, [L. S.]
THO. U. WALTER. [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM,
W. J. FITZPATRICK.

—

*Schedule referred to in the within agreement.*

The party of the first part to deliver at his own proper cost, on the grounds of the United States Capitol, 50,000 bushels of clean, sharp, river sand, at such times and in such quantities as the party of the second part may require; the delivery to be commenced on the first day of March, eighteen hundred and fifty-two, (1852.)

The party of the second part to pay to the party of the first part, at the rate of three (3) cents per bushel for all of the aforesaid 50,000 bushels of sand, provided the same shall be delivered according to this contract, and approved by the general superintendent.

Payment to be made on the first day of every month, if so required by the party of the first part.

A. N. CLEMENTS, [L. S.]
THO. U. WALTER. [L. S.]

—

*Know all men by these presents*, That we, James T. Clarke, dry goods merchant, and B. H. Clements, painter and glazier, both of Washington, D. C., are held and firmly bound unto the United States of America in the full and just sum of five hundred dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney, duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this twenty-eighth day of November, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound Aloysius N. Clements, his heirs, executors or administrators, do and shall

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well and truly execute a contract which the said Aloysius N. Clements has entered into with Tho. U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver at his own proper cost on the grounds of the United States Capitol, 50,000 bushels of clean, sharp, river sand, at the rate of three (3) cents per bushel—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

JAMES T. CLARKE, [L. S.]
B. H. CLEMENTS. [L. S.]

Signed, sealed, and delivered, in presence of
RICHARD G. BRISCOE,
JAMES DALY.

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*Agreement between John Purdy, lumber merchant, of Washington, D. C., of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule to the said party of the second part, at the sight of the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner to do, execute, and perform the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided, also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

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And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed, by the said parties, this twenty-eighth day of November, 1851, as witness their seals.

JOHN PURDY, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM,
W. J. FITZPATRICK.

—

*Schedule referred to in the within agreement.*

The party of the first part to deliver, at his own proper cost, on the grounds of the work of the extension of the United States Capitol, 300,000 feet 4-4 white pine common culling boards, in 16-feet lengths, at the rate of fourteen ($14) dollars per thousand feet;

25,000 feet, board-measure, of 3 by 4 spruce pine scantling, at the rate of fifteen ($15) dollars per thousand feet; and

25,000 feet, board-measure, of 3 by 6 white pine scantling, at the rate of sixteen ($16) dollars per thousand feet:

To be delivered at such times during the ensuing year, and in such quantities, as may from time to time be required by the architect, commencing on the 1st of March next, and to be subject to his inspection and approval.

The party of the second part to pay to the party of the first part the prices named above for each item, provided the delivery is made in accordance with the contract; payments to be made monthly, if so required by the party of the first part.

JOHN PURDY, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM,
WM. J. FITZPATRICK.

—

*Know all men by these presents*, That we, Stanislaus Murray, grocery merchant, and Andrew Rothwell, magistrate, both of Washington, D. C.,

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are held and firmly bound unto the United States of America in the full and just sum of one thousand dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this twenty-eighth day of November, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound John Purdy, his heirs, executors, or administrators, do and shall well and truly execute a contract which the said John Purdy has entered into with Tho. U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver, at his own proper cost, at the grounds of the extension of the United States Capitol, 300,000 feet 4-4 white pine common culling boards, in 16-feet lengths, at the rate of $14 per thousand feet; 25,000 feet, board-measure, of 3 by 4 spruce pine scantling, at the rate of $15 per thousand feet; and 25,000 feet, board-measure, of 3 by 6 white pine scantling, at the rate of $16 per thousand feet—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

STANS. MURRAY, [L. S.]
A. ROTHWELL, [L. S.]

Signed, sealed, and delivered, in presence of
LEWIS JOHNSON,
W. W. DEAL.

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*Agreement between H. Exall, builder, of Richmond, Virginia, and M. G. Emory, granite cutter, of Washington, D. C., of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site of the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that

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the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its parts subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed, by the said parties, this fourth day of December, 1851, as witness their seals.

HENRY EXALL, [L. S.]
M. G. EMORY, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
CLEMENT L. WEST.

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*Schedule referred to in the within agreement.*

The party of the first part hereby agree to execute all the granite work of the two wings and the corridors of the aforementioned extension of the United States Capitol, including all the granite, the granite cutting and setting, all the hoisting apparatus, tools and other implements and materials used to carry on and complete the said work, including all freights, transportation, hauling, labor, and every expense pertaining to the same, excepting only the iron bands, bars, ties, cramps, and dowels, which are to be furnished by the party of the second part, and which are nevertheless to be inserted by the party of the first part, at their expense.

And in consideration of all the aforementioned work and materials being

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well and truly done and furnished by the party of the first part, to the entire satisfaction of the party of the second part, and that the material and workmanship shall be fully equal to the specimen sent with the proposal, and in accordance with the plans and elevations on which the estimate was founded, and the printed specifications, a copy of which is hereunto annexed, the party of the second part hereby agrees to pay to the party of the first part the sum of twenty-two thousand four hundred dollars, in monthly payments, the amounts of which are to be in proportion to the amount of materials actually delivered, and of work done and set, subject to the retention of ten per cent. and the conditions stipulated in the foregoing contract.

And it is further understood and agreed by the parties, that in case any addition to, or abatement from the work or materials exhibited on the aforementioned plans and elevations, and described in the accompanying specifications, should be required by the party of the second part, the same shall be acceded to, and executed by the party of the first part, without in any way violating or vitiating this contract, and the value of said additions or abatements shall be rated according to the price of the work hereinbefore provided and contracted for, and the said additions or abatements shall be paid for or deducted, according to the stipulations and provisions hereinbefore set forth.

All the aforementioned work to be done under the direction and subject to the approval of the party of the second part, and to progress as rapidly as he may from time to time direct.

HENRY EXALL, [L. S.]
M. G. EMORY, [L. S.]
THO. U. WALTER, [L. S.]

—

*Know all men by these presents*, That we, H. Exall, of Richmond, Virginia, M. G. Emory, William B. Todd, and George Mattingly, of the city of Washington, District of Columbia, are held and firmly bound unto the United States of America in the full and just sum of ten thousand dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this fourth day of December, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound H. Exall and M. G. Emory, their heirs, executors or administrators, do and shall well and truly execute a contract which the said H. Exall and M. G. Emory have entered into with Thomas U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which they contracted and engaged to furnish and deliver all the granite and workmanship of the extension of the United States Capitol, for the sum of twenty-two thousand four hundred dollars—the said contract being hereto annexed—

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then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

HENRY EXALL, [L. S.]
M. G. EMORY, [L. S.]
WM. B. TODD, [L. S.]
G. MATTINGLY. [L. S.]

Signed, sealed, and delivered, in presence of
CLEMENT L. WEST.

—

*Specifications for the granite work of the exterior of the extension of the United States Capitol.*

1. The exterior of the sub-basement of the wings and corridors on the north and south of the present building to be composed of light-colored granite, of the best quality and of uniform appearance. All the steps leading from the ground to the basement floor, including the front door-sills of the basement story, together with the sub-plinth of the cheek-blocks, to be composed of the same material.

2. All the work to be executed in the best and most perfect manner, according to the accompanying plans, and such detail drawings as may from time to time be furnished in accordance thereto.

The whole to be done under the directions of the architect, and to be subject to his approval.

3. The height of the sub-basement, above the ground line, to be three feet six inches, and the lower course to extend six inches below the ground line, making the granite work four feet in height, which will be divided into two courses; the first course to be two feet ten inches high, and twelve inches on the bed, and the second or top course to be fifteen inches high, and four feet on the bed. The top to be cut to fourteen inches on the face, which will give a wash or weathering of *one* inch.

4. Every stone to be dowelled into the stones above and below it, and at each end, and securely cramped to the walls and adjacent stones by means of heavy iron cramps. The joints to be as small as practicable.

5. The floors of the arcades to be flagged with granite at least six inches thick, laid hollow, and a granite slab of five feet seven inches square, and fourteen inches thick, to be placed under each pier.

6. The steps to approach the basement to be fourteen inches tread, and seven inches rise, with square edges, and to be rebated, the one on the other. The number and dimensions of these steps to be found on plans Nos. 5 and 9.

7. The two front door-sills of the basement to be composed of granite extending four feet *in* from the face of the walls.

8. The sub-plinth of the cheek-blocks to be composed of granite, extending from the ground to the top line of the sub-basement.

9. All the surface of the granite to be finished in the finest and most perfect manner, and to be free from flaws or defects.

10. The general design of the sub-basement to be similar to that of the eastern front of the present building.

11. The contract for the foregoing work to embrace all the granite for

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the sub-basement of the afore-mentioned wings and corridors, all the granite cutting and setting, all the hoisting apparatus, tools, and other implements and materials required to carry on and complete the work, including all freight, transportation, hauling, and labor, pertaining to this department of the work, excepting only the iron bars, bands, ties, cramps and dowels, which are to be furnished by the government, and inserted by the contractor or contractors, at his or their expense.

THOMAS U. WALTER,
*Architect of the Extension of the United States Capitol.*

WASHINGTON, D. C., *September* 19, 1851.

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*Agreement between Andrew Hoover, lime merchant, of Washington city, D. C., of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site of the aforesaid extension of the United States Capitol, and at such times and in such quantities as he shall require and designate; and faithfully, diligently, and in good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned:

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times and in such manner as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place or under any circumstances whatever; but the parties of the first part shall still remain liable to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby further stipulated and agreed that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be in all its

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parts subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then and in such case the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements hereinbefore particularly set forth, the subscribers hereunto bind themselves jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed, by the said parties, this fourth day of December, 1851, as witness their seals.

A. HOOVER, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM,
C. PEARSON HOOVER.

—

*Schedule referred to in the within agreement.*

The party of the first part to deliver on the grounds of the United States Capitol at Washington, D. C., at his own proper cost, 3,000 barrels of lime, burnt entirely with wood, without the use of coal in any way whatever; the said lime to be delivered at such times during the ensuing year, and in such quantities, as may from time to time be required by the architect, the delivery to commence on the first day of March, eighteen hundred and fifty-two, (1852) and to be subject to the inspection and approval of the general superintendent.

The party of the second part to pay to the party of the first part the sum of ninety-seven cents (97) for every barrel of lime that shall weigh 260 pounds net, delivered in accordance with this contract, understanding that twelve and a half cents (12½) is to be deducted for every barrel which shall be returned in good order.

Payment to be made monthly, if so required by the party of the first part.

A. HOOVER, [L. S.]
THO. U. WALTER, [L. S.]

—

*Know all men by these presents*, That we, Andrew Hoover, Thomas Smith, and Samuel Stott, all of Washington city, District of Columbia, are held and firmly bound unto the United States of America in the full and just sum of one thousand dollars, lawful money of the United States, to be paid to the said United States or to its proper agent or attorney duly authorized to receive the same; to which payment well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors and administrators, in the whole and for the whole, jointly and severally,

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firmly by these presents. Sealed with our seals, and dated this fourth day of December, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound Andrew Hoover, his heirs, executors or administrators, do and shall well and truly execute a contract which the said Andrew Hoover has entered into with Thomas U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver at the grounds of the United States Capitol, Washington, D. C., at his own proper cost, 3,000 barrels of lime, burnt entirely with wood, without the use of coal in any way whatever, at the rate of ninety-seven cents (97) per barrel of 260 pounds net, with a deduction of twelve and a half cents for every barrel returned in good order—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

A. HOOVER, [L. S.]
THOS. SMITH, [L. S.]
SAML. STOTT. [L. S.]

Signed, sealed, and delivered, in presence of
C. PEARSON HOOVER.

---

*Agreement between Alexander R. Boteter, dealer in cement, of Shepherdstown, Jefferson county, Virginia, of the first part, and Thomas U. Walter, architect, of the second part, acting under the authority of, and for and in behalf of the United States, in the erection of the extension of the Capitol, witnesseth:*

That the parties of the first part, in consideration of the matters hereinafter referred to and set out, covenant and agree, to and with the party of the second part, to furnish and deliver, at the proper cost of the said parties of the first part, the building materials which are described in the annexed schedule, to the said party of the second part, at the site for the aforesaid extension of the United States Capitol; and at such times, and in such quantities, as he shall require and designate; and faithfully, diligently, and in a good and workman-like manner, to do, execute, and perform, the office, work, and labor, in the said schedule mentioned.

And the party of the second part, in consideration of the premises, covenants and agrees to pay the parties of the first part the sums and prices in the said schedule mentioned, at such times, and in such manner, as are therein declared.

Provided, however, that in case the party of the second part shall at any time be of opinion that this contract is not duly complied with by the parties of the first part, or that it is not in due progress of execution, or that the said parties of the first part are irregular or negligent, in such case he shall be authorized to declare this contract forfeited, and thereupon the same then shall become null; and the parties of the first part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same in any place, or under any circumstances whatever; but the parties of the first part shall still remain liable



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to the party of the second part for the damages occasioned to him by the said non-compliance, irregularity, or negligence.

And provided also, that in order to secure the faithful and punctual performance of the covenants above made by the parties of the first part, and to indemnify and protect the party of the second part from loss, in case of default and forfeiture of this contract, the said party of the second part shall, notwithstanding the provisions of the annexed schedule, be authorized to retain in his hands until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said party of the first part.

And it is hereby further stipulated and agreed, that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be, in all its parts, subject to the terms and requisitions of an act of Congress, passed on the twenty-first day of April, in the year of our Lord one thousand eight hundred and eight, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations necessary to carry on the said work, that then, and in such case, the execution of this contract shall be suspended, without thereby creating any claim upon the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements, hereinbefore particularly set forth, the subscribers hereunto bind themselves, jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed, by the said parties, this nineteenth day of December, 1851, as witness their seals.

ALEX. R. BOTELER, [L. S.]
THO. U. WALTER, [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM.

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*Schedule referred to in the within agreement.*

The party of the first part to furnish and deliver, at his own proper cost, at the grounds of the United States Capitol, one thousand (1,000) barrels best hydraulic cement, each barrel to weigh not less than three hundred pounds net, to be delivered in barrels, and at such times and in such quantities as the party of the second part may direct; the delivery to commence on the first day of March, eighteen hundred and fifty-two, (1852.)

The party of the second part to pay to the party of the first part one dollar and twelve and a half cents ($1 12½) for every barrel of cement delivered according to this contract, and approved by the general superintendent.

The party of the first part to allow for every empty barrel returned in good order, twelve and a half cents (12½.) Payment to be made on the first day of every month, or at such times as may be convenient to the parties.

ALEX. R. BOTELER, [L. S.]
THO. U. WALTER, [L. S.]

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*Know all men by these presents*, That we, Alex. R. Boteler, John K. White, and Henry Bedinger, are held and firmly bound unto the United States of America in the full and just sum of five hundred dollars, lawful money of the United States, to be paid to the said United States, or to its proper agent or attorney duly authorized to receive the same; to which payment, well and truly to be made and done, we bind ourselves and every of us, our and every of our heirs, executors, and administrators, in the whole and for the whole, jointly and severally, firmly by these presents. Sealed with our seals, and dated this nineteenth day of December, anno Domini one thousand eight hundred and fifty-one.

The condition of the above obligation is such, that if the above bound Alexander R. Boteler, his heirs, executors, or administrators, do and shall well and truly execute a contract which the said Alexander R. Boteler has entered into with Thos. U. Walter, the architect of the extension of the Capitol, for and in behalf of the United States, by which he has contracted and engaged to furnish and deliver, at the grounds of the United States Capitol, Washington, D. C., at his own proper cost, 1,000 barrels best hydraulic cement, each barrel not to weigh less than 300 pounds net—the said contract being hereto annexed—then the above obligation to be void and of none effect; otherwise to be and remain in full force and virtue in law.

ALEX. R. BOTELER, [L. S.]
JOHN K. WHITE, [L. S.]
HENRY BEDINGER, [L. S.]

Signed, sealed, and delivered, in presence of
Z. W. DENHAM.

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*Agreement between the United States of America, of the first part, by Thomas U. Walter, architect, acting under the authority of, and for and in behalf of the said United States, in the erection of the extension of the Capitol; and John Rice, John Baird, Charles Heebner, and Matthew Baird, all of Philadelphia county, in the State of Pennsylvania, of the second part, witnesseth:*

That the party of the first part, having commenced the aforesaid extension of the United States Capitol, will require a quantity of marble for the exterior facing of the work, also for the steps, cheek-blocks, porticoes, and other exterior features, as exhibited on the plans, and referred to in the specifications, hereby enters into contract with the parties of the second part, for furnishing and delivering the same according to the stipulations hereinafter set forth.

The parties of the second part, in consideration of the matters hereinafter referred to and set out, covenant and agree to and with the party of the first part, to furnish and deliver, at the proper cost of the said parties of the second part, on the grounds of the aforesaid extension of the United States Capitol, all the marble required for the exterior of the said work, as described and referred to in the printed specifications, dated September 19, 1851, a copy of which is hereunto annexed: the said marble to be procured from the quarries near Lee, in the State of Massachusetts; to be fully equal to the specimen which has been tested by the commission appointed by the

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government for that purpose, and to be delivered at such times, and in such quantities, within three years, as the architect for the time being may from time to time direct, and to be subject to his approval.

The party of the first part, in consideration of the premises, covenants and agrees to pay the parties of the second part at the rate of sixty-five cents per cubic foot for all blocks of marble containing thirty cubic feet or less, and one dollar and ninety-eight cents per cubic foot for all blocks of marble containing over thirty cubic feet, delivered in accordance with the foregoing provisions, conditions and requirements.

*Provided, however*, That in case the architect for the time being shall at any time be of opinion that this contract is not duly complied with by the parties of the second part, or that it is not in due progress of execution, or that the said parties of the second part are irregular or negligent in the performance of this contract, in such case he shall be authorized to declare this contract forfeited, and thereupon the same shall become null, as far as it regards the party of the first part; and the parties of the second part shall have no appeal from the opinion and decision aforesaid, and they hereby release all right to except to or question the same, in any place or under any circumstances whatever; but the parties of the second part shall still remain liable to the party of the first part, for the difference between the prices stipulated in this contract, and the prices the said party of the first part may have to pay for the marble required to finish the work, as well as for all other damages occasioned to the said United States by such non-compliance, irregularity or negligence.

*And provided, also*, That in order to secure the punctual and faithful performance of the covenants made by the parties of the second part by these presents, and to indemnify and protect the party of the first part from loss, in case of default and forfeiture of this contract, the said party of the first part shall be authorized to retain in its hands, until the completion of the contract, ten per cent. on the amount of moneys at any time due to the said parties of the second part, until the moneys thus retained shall amount to fifteen thousand dollars, after which the marble subsequently delivered shall be paid for in full on delivery, leaving the aforesaid fifteen thousand dollars in the possession of the party of the first part, until the completion of the contract.

And it is hereby expressly understood by the contracting parties that all the marble is to be delivered in the rough, except the column-blocks mentioned and provided for hereinafter; and that the dimensions, with the usual allowance for dressing, of all the blocks required for the work, are to be furnished from time to time by the aforesaid party of the first part; and that said dimensions are to constitute the measurement on which payment is to be made, without allowance for any surplus over and above the sizes thus given. And further, that the parties of the second part are to have all the column-blocks scabbled round to dimensions, at their own proper cost.

And it is further stipulated and agreed, that no member of Congress shall be admitted to any share or part of this contract or agreement, or to any benefit to arise therefrom; and this contract shall be, in all its parts, subject to the terms and requisitions of an act of Congress, approved on the 21st day of April, 1808, entitled "An act concerning public contracts."

It is also expressly understood and agreed by and between the parties hereto, that if Congress should at any time fail to make the appropriations

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necessary to carry on the said work, that then, and in such case, the execution of this contract shall be suspended until such appropriations shall be made, without thereby creating any claim on the United States by the said contractors.

And for the true and faithful performance of all and singular the covenants, articles, and agreements, hereinbefore particularly set forth, the subscribers hereunto bind themselves, jointly and severally, their and each of their successors, heirs, executors, and administrators.

Thus covenanted and agreed by us, the parties aforesaid, in the city of Washington, this seventeenth day of January, 1852, as witnesseth our hands and seals.

THO. U. WALTER, [L. S.]
JOHN RICE, [L. S.]
JOHN BAIRD, [L. S.]
CHAS. HEEBNER, [L. S.]
MATTHEW BAIRD. [L. S.]

Signed, sealed, and delivered, in presence of

E. S. SMITH,
EDWARD CLARK,
Z. W. DENHAM,
CLEMENT L. WEST.

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*Specifications for the marble work of the exterior of the extension of the United States Capitol.*

1. The whole exterior of the proposed additions to the Capitol, embracing wings and corridors on the north and south of the present building, as represented on the accompanying plans, to be faced, above the sub-basement, with American marble of the best quality, as nearly white as can be obtained, and of uniform appearance; and the steps, cheek-blocks, porticoes, entablatures, balustrades, window and door dressings, and arcades under the porticoes, to be composed of the same material.

2. All the work to be executed in accordance with the accompanying drawings. The architectural details of the new buildings to correspond, in general character, to those of the present Capitol, except where a difference is shown on the aforesaid drawings, or provided for in these specifications.

3. The piers of the arcades, that support the porticoes, to be wrought on all sides, and the arches to be finished on the inside with key-stones, the same as on the outside. Plain arches to be thrown from pier to pier, as shown by the red lines on plans Nos. 5 and 9, similar to those under the eastern portico of the present building; also a large elliptic arch, corresponding to the large arch under the said eastern portico.

4. Piers and arches corresponding to the arcades, to be constructed against the walls of the building, as shown on plans Nos. 20 and 21.

5. The aforesaid piers to be 4 feet 6 inches square, with plinths 5 feet 4 inches square and 1 foot 8 inches high—the rustics to be 7 inches high and 2 inches deep, and the courses between the rustics to be 1 foot 3 inches; the whole to be finished according to plan No. 23.

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6. The ceiling of the arcade to be composed of marble, resting on a marble cornice of 6 inches in height. (See A, plan No. 23.)

7. Rusticated piers corresponding to those of the arcades, to be constructed around the entire basement of both buildings, as shown on plans.

8. The architectural order of the superstructure to be similar to that of the present Capitol, and the proportions to be the same, excepting only the intercolumniations and inter-spaces of the pilasters, all of which are shown on plans Nos. 6, 10, 12, 13, 14 and 15.

9. Each of the pedestals under the columns to be composed of a single stone 4 feet 6 inches square, and 3 feet high, panelled on all sides.

10. The bases of the columns to be 22 inches high including the plinth, which will be 4 feet 3 inches square.

11. The shafts, exclusive of the capital and base, to be 25 feet 5 inches high; the lower diameter to be 3 feet and the upper diameter 2 feet 7 inches. The upper torus of the base to be cut on the lower frustum of the shaft, and none of the frusta of the shaft to be less than 4 feet in height.

12. The capitals of the columns to be 3 feet 9 inches in height, from the bottom of the torus to the top of the abacus, the proportions to be similar to those of the present building, and the sculpture to be executed in the most perfect and artist-like manner.

13. The entire height of the columns, including capitals, bases and plinths, to be 30 feet, and the whole number in both buildings and corridors to be 96. All the column blocks to be set on milled lead, to prevent fracture at the joints.

14. The pilasters to correspond to the columns in width, height, and architectural ornaments, and to project 7 inches from the walls; the whole number to be 144.

15. The horizontal joints of the pilasters to agree with the joints of the walls, and to form a bond with the ashlar, without showing vertical joints in the faces.

16. The pedestals under the pilasters to be 4 feet 6 inches on the face, and 16 inches on the returns, panelled on the faces, and each composed of a single stone. The coupled pilasters on the corners to have pedestals 10 feet 6 inches on the face, each to be composed of three stones. All the pedestals under the pilasters to agree in height and architectural finish with those under the columns.

17. The architrave over each intercolumniation to be composed of a single stone, extending from centre to centre of the columns, cut in facia on both sides, and moulded similar to the architrave of the present building; the height to be 2 feet 3 inches, including the architrave band; and the thickness, on the soffit, to be 2 feet 7 inches.

18. The architrave band or regula to extend around the inside of the architraves, the same as the outside, to support the ceilings of the portico.

19. The frieze, cornice, blocking courses, and balustrades, to be composed of marble, in accordance with plans Nos. 22 and 23, and which are similar, in general design, to corresponding features of the present buildings. The pedestals of the balustrade to be panelled on the face, and plain on the inside; the balusters to be joggled into the blocking, and into the cap.

20. The portico floors to consist of marble slabs, at least 4 inches thick, laid on the walls, so as to allow of a circulation of air under them.

21. The steps to be rebated on each other, and the lower steps to have a bed 2 feet, secured to the foundation by iron bars.

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22. The cheek-blocks to be constructed of stones, not less than 18 inches on the beds, and the cap-stones of each cheek-block to reach across the entire width, and to be not less than 5 feet wide, and 14 inches deep.

23. The window dressings to be made according to the drawings. The mouldings and details are shown on plan No. 23, and are to correspond in general proportions to those of the present building.

24. The chimneys in the outside walls, being forty in number, in single flues, to be brought out in the pedestals of the balustrade, and to be composed of marble. Those that come out of the roof, consisting of ninety-six flues in sixteen stacks, to be topped out with marble 8 feet above the sheathing; the caps to correspond to those of the present building.

25. The ashlar work throughout the buildings to have beds from 9 to 18 inches, cut square throughout the entire thickness of the stone, and to be slightly free from the square on the front edge, to prevent fracture at the joints.

26. All the marble work, of every description, to be fine-sanded.

27. Every stone in the building to be cramped to the adjoining stone with heavy iron cramps, and to have a strong iron tie, extending into the brick walls. The iron work to be furnished by government, and to be inserted by the contractor or contractors, at his or their expense.

28. All the work to be executed in the best and most perfect manner, according to the accompanying plans, and such detail drawings as may from time to time be furnished in accordance thereto. The whole to be done under the direction of the architect, and to be subject to his approval.

29. The contract of the foregoing work to embrace all the marble for the exterior of the wings and corridors above the sub-basement, all the marble work and setting, all the scaffolding, hoisting-apparatus, tools, and all implements and materials required to carry on and complete the same, including all freight, transportation, hauling and labor, pertaining to this department of the work, excepting only the iron bands, bars, cramps, ties and dowels, referred to in article 27.

THOMAS U. WALTER,
*Architect of the Extension of the U. S. Capitol.*

WASHINGTON, D. C., *September* 19, 1851.

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*Message of the President of the United States, communicating the report of the architect for the extension of the Capitol, showing the condition of that and the other public works under his charge.*

*To the Senate and House of Representatives of the United States:*

I transmit herewith a report from the Secretary of the Interior, containing a report from Thomas U. Walter, architect for the extension of the Capitol.

MILLARD FILLMORE.

EXECUTIVE CHAMBER,
*Washington City, February* 10, 1852.

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DEPARTMENT OF THE INTERIOR,
*Washington, February* 10, 1852.

SIR: I have the honor herewith to submit, and to recommend that it be communicated to Congress, the report of Thomas U. Walter, architect for the extension of the Capitol, showing the condition of that and the other public works under his charge.

I am, sir, with great respect, your obedient servant,

ALEX. H. H. STUART,
*Secretary.*

To the PRESIDENT OF THE UNITED STATES.

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ARCHITECT'S OFFICE, U. S. CAPITOL,
*Washington, D. C., December* 23, 1851.

SIR: I have the honor to lay before you the following report of the progress and state of the public works under my charge, with such suggestions as to their future prosecution as the present occasion seems to require.

*The extension of the Capitol.*—The general design and outlines of this work were decided on by the President of the United States on the 10th of June last; and in accordance with his instructions, I proceeded, without delay, to prepare the necessary drawings, and to make arrangements for commencing the work.

The corner-stone was laid at noon on the 4th day of July last, by the President, with appropriate ceremonies, since which time the work has progressed with as much rapidity as the character of the structure, and a proper regard for its stability and permanency, would warrant.

The outside walls, which are eight feet nine inches broad at the base, and six feet nine inches thick above the footings, are founded at the depth of fifteen feet below the surface of the ground on the eastern front, and in some parts of the western front they reach the depth of forty feet. In consequence of the Capitol having been erected on the western brow of the original hill, and the present terraces being *made ground*, this extraordinary depth of foundation became necessary, as it was highly important that every part of the work should be founded on the natural, undisturbed earth, and which I have the satisfaction to say has been accomplished.

Nearly all the outside foundation walls have been raised sufficiently high to receive the cut-stone work. Such portions of these walls as now appear above the ground will be covered by the terraces, which are to correspond, in height and general design, to those which embellish the present Capitol.

The building-stone which have been laid in the foundations, since the commencement of the work, amount to eighteen thousand perches, all of which have been furnished by contract; and the lime, sand, and cement have been supplied in the same manner. The excavations and stone masonry have been done by days-workmen, under the superintendence of Mr. Samuel Strong, whose mechanical skill and energy, in the discharge of his duties, are manifested by the amount of work that has been accomplished, as well as by its execution.

*Description of the design.*—The present building is three hundred and fifty-two feet four inches from north to south, and one hundred and twenty-one feet six inches from east to west, with a portico of one hundred and

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sixty feet in width on the eastern front, and a projection on the western front of eighty-three feet, embracing a recessed portico of ten columns, which constitute the façade of the library.

The extension of the Capitol consists of two wing buildings placed at the north and south ends of the present structure, at the distance of forty-four feet from it, with connecting corridors. Each building is one hundred and forty-two feet eight inches front, from north to south, by two hundred and thirty-eight feet ten inches deep, from east to west, exclusive of the porticoes and steps; the corridors consist of passages leading from the centre building to the wings, of twenty-one feet four inches in width, with outside colonnades, which make the entire width of each corridor fifty-six feet eight inches.

The wing buildings have porticoes on the east front, extending the whole width, with a flight of steps to each, corresponding to the steps of the present Capitol. Each of these porticoes has a centre projection of ten feet four inches by seventy-eight feet in width; thus forming a double portico in the centre of the façade, similar in general design to that of the present eastern portico. There is also a portico on the west front of each wing, one hundred and five feet eight inches in width, projecting ten feet six inches; and on the north and south fronts, porticoes of the same projection, each of which is one hundred and twenty-one feet four inches in width.

The whole extent of the buildings, from north to south, when finished, will be seven hundred and fifty-one feet four inches, and the greatest width from east to west, including porticoes and steps, is three hundred and twenty-four feet.

The ground actually covered by the buildings, including the porticoes and steps, and exclusive of the court-yards, is 153,112 square feet, or six hundred and fifty-two square feet more than *three and a half acres;* of which there is covered by the present building 61,201 square feet, and by the new wings and corridors 91,911.

The architecture of the exterior is designed to correspond in its principal features to that of the present building, and the disposition of the various parts is intended to present the appearance of one harmonious structure, and to impart dignity to the present building, rather than to interfere with its proportions, or detract from its grandeur and beauty.

The principal entrance to each wing is on the eastern front; the approach to it is by means of a flight of thirty-nine steps, flanked by massy cheek-blocks, similar to those of the present building, with a vaulted carriage way below to enter the basement. The front door opens into a vestibule of twenty-seven feet in width, leading into a hall fifty-five feet square, lighted from the roof, and embellished by twenty marble columns, supporting an entablature and balustrade; this colonnade will support the galleries for approaching the offices in the second story. These halls will be enriched with marble antæ against the walls in both stories, and lighted by ornamental stained glass sky-lights, supported by iron rafters.

From each hall a vaulted passage, of twenty-six feet ten inches in width, leads into a corridor of twenty-three feet six inches, running across each wing from north to south, and uniting it with the centre building.

The Hall of Representatives occupies the western half of the south wing, and is lighted on three sides by fifty windows. Its dimensions are one hundred and thirty feet from north to south, and ninety-seven feet ten inches from east to west. The ceiling is thirty-five feet in height, deeply panelled

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and ornamented with brackets, pendants, and enriched mouldings; the panels will be filled in with ornamental glass, through which light will be transmitted from sky-lights in the roof.

The floor of the House is large enough to accommodate four hundred members with separate desks, and allow ample space for lobbies and seats for distinguished visitors, while at the same time it may be conveniently adapted to the number of representatives which at present constitute this branch of the legislature.

The galleries for spectators extend around three sides of the hall, and are designed to accommodate twelve hundred persons; they are approached by two spacious flights of marble stairs.

The southern and western porticoes open into the hall, and will be appropriated exclusively to the use of the members, and such as have the privilege of the floor of the House.

The Senate Chamber is located on the western half of the north wing, and is lighted on the north and west by twenty-six windows. Its dimensions are seventy feet six inches, by ninety-seven feet ten inches; the ceiling is thirty-five feet in height, with sunken panels and ornaments, similar to those of the House of Representatives already described. There is ample room in this hall for separate seats for one hundred senators, allowing at the same time all the space that will ever be required for lobbies and the accommodation of distinguished visitors.

The galleries, like those of the Hall of Representatives, occupy three sides of the chamber, and contain accommodations for twelve hundred persons; they are approached by two flight of marble stairs like those of the south wing. The galleries of each of the halls have *five* spacious doorways, which will afford ingress and egress without crowding, or causing inconvenience to the audience or disturbance of the members.

The whole number of rooms in both wings, exclusive of the legislative halls, is one hundred and one; all of which are vaulted with bricks, and rendered completely fire-proof. Ninety-five of these rooms are lighted directly from the outside, by one or more windows, and the remaining six depend on secondary light, and are designed for the storing of documents, stationery, &c.

The warming of the buildings will be effected by means of hot-water pipes enclosed in chambers erected in the cellars, and connected with boilers for heating the water; the external air will be admitted into these chambers, where it will be warmed and conducted by flues to all the halls and rooms in the buildings. The supply of air will be brought through the circular windows under the eastern portico of the present building, and conducted down the well-holes already existing in the spandrels of the rotundo, and which are ten feet in diameter, extending from the top of the building to the cellar; culverts will be constructed for conveying the air from these shafts to the furnace chambers in the wings, and the pure air will be drawn down and *forced* through the chambers, where it will be warmed in its passage to the rooms. This artificial draught will be created by means of fans placed at the bottom of the air shafts, and worked by a small steam-engine erected in the cellar of the centre building, and kept continually at work during cold weather. By these means, a constant breeze of warm air will be thrown into every room, by which a corresponding volume of air previously in the room will be displaced; thus assisting

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the process of ventilation, and creating a circulation of the atmosphere which could not be attained by any other process.

The failure of furnaces to warm buildings covering a large area, may generally be attributed to the difficulty with which warm air is conveyed in a horizontal direction; the levity it attains by rarefaction will give it an upward draught of a velocity in proportion to its temperature, in comparison to that of the external air; but its levity has but little effect in carrying it horizontally; hence it is necessary to *force* the air through the heating medium, without which a uniform supply can seldom be attained.

Air thus admitted, warmed and forced into the rooms, cannot fail to be agreeable as well as healthy; it will be taken from an elevation above all impurities, and admitted at a point shielded from the smoke and gas of the chimneys by the heavy projecting portico of the centre building; in its passage around the hot-water pipes it can never come in contact with surfaces heated above 212° Fahrenheit, and can therefore never receive an excess of carbonic acid gas, nor suffer a diminution of moisture.

By a proper execution of this plan of heating, every part of the buildings will be rendered warm and comfortable during the coldest weather, and open fires will be unnecessary. I have, however, thought it best to introduce fireplaces in all the rooms throughout the building, as well as in the halls of legislation, as many of the members are accustomed to open fires, and would not be willing to dispense with them.

Flues for ventilation will be constructed from all the rooms throughout both buildings, to lead to foul-air chambers between the upper tier of arches and the roof; connected with these chambers, air-shafts will be built to extend above the roof, in which artificial heat will be introduced, so as to keep up, at all times, an ascending current of sufficient velocity to free the rooms and halls of legislation from all deteriorated air. This system of ventilation would be sufficient of itself to render all the apartments agreeable and healthy; but when considered in connexion with the plan of heating which has just been described, there can be no doubt of a satisfactory result.

The Senate Chamber and the Hall of Representatives are both designed with reference to the principles of acoustics. The magnitude of these rooms, especially the latter, and the fact that they are to be constructed for speaking in from every point, render it necessary to avoid all forms that would produce echoes, and at the same time to present reflecting surfaces enough to give power to the voice without resolving the sound with greater intensity on one point than on another. To attain these objects the rooms are made rectangular, and the ceilings comparatively low and flat; and I have no doubt that with proper attention to establish acoustic principles, in the arrangement of the details of the rooms, they will be free from echoes, no matter in what part the speaking may take place.

I have estimated the cost of executing the entire design, in accordance with the drawings and model, the whole to be faced with white marble, and finished in a substantial and workmanlike manner, and find that every expense will be covered by---------- $2,675,000
Of which there have already been appropriated by Congress-- 100,000

Leaving as the amount required to complete the work------- 2,575,000

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This estimate is founded upon the assumption that the interior of the new buildings will not be more expensively finished than the present Capitol; if, therefore, it should be hereafter decided to introduce architectural embellishments of a more ornate or expensive character, the cost will be proportionately augmented.

The shortest time in which the work can be well and substantially done, and the terraces and grounds completed, is *five* years from the present date; but which, of course, will depend on the necessary appropriations being made by Congress, so as to admit of its advancing as rapidly as possible, without suspension or hinderance.

The cellars may be finished and the basement story constructed and vaulted during the ensuing season; in the second year the exterior walls may be raised to their entire height, and the principal story vaulted. It will require the third year to vault the upper story and put the buildings under roof; after which, there will be as much work as can be accomplished in two years, in constructing the porticoes, finishing and furnishing the interior, and completing the terraces and grounds.

| | |
|---|---|
| By an act of Congress, approved September 30, 1850, there was appropriated for the extension of the Capitol, as before stated, the sum of | $100,000 00 |
| Of which there have been expended to the present date, (December 23, 1851) | 88,082 86 |
| Leaving an unexpended balance of | 11,917 14 |

Out of which sundry bills for materials and the wages of the workmen for the present month are to be paid, the aggregate amount of which, as nearly as can now be estimated, will be about $10,000.

A detailed account of the expenditures from the commencement of the work to the 31st of the present month, inclusive, will be transmitted to you on the 1st day of January ensuing.

| | |
|---|---|
| There will be required, to carry on the work during the remainder of the present fiscal year ending June 30, 1852 | $350,000 00 |
| And during the ensuing fiscal year ending June 30, 1853 | 650,000 00 |
| Making | 1,000,000 00 |

*The Patent Office Buildings.*—On the 29th of July last I received an official letter from you, placing the work of these buildings under my charge, together with all the papers and drawings pertaining to it; all of which were duly received, and an inventory of them transmitted to your office.

Immediately on entering on the duties of my appointment, I proceeded to make drawings of the *east wing* as far as executed, from actual admeasurements, showing also the proposed finish; which drawings are herewith submitted.

At the time I received the charge of the work, the exterior walls of this wing were high enough to receive the cornice, a portion of which was cut and ready to be set in the building; about one-third of the arching of the upper story was completed; the window frames were made and placed in the walls, and the sash were all made and glazed.

Since that time the exterior walls have been completed, the marble piers

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for supporting the remaining arches of the upper story have been set, and the arching of the building entirely finished.

The plan upon which this wing was commenced, contemplated the subdivision of the whole into small rooms; but after it had progressed as high as the floor of the upper story, it was decided to throw the whole of this story into one room, for the exhibition of models. This alteration involved the necessity of making several changes in the building, to which it will be proper for me to advert.

First: the chimneys had been built in the partition walls between the several rooms, which brought all the flues out in the exhibition room. In order to avoid the removal of these chimneys, they were carried horizontally under the floor of the room, and built up in the outside walls as high as the cornice; they were then carried back again, towards the centre of the building, over the upper tier of arches, and topped out. The horizontal direction thus given to the upper part of these flues, will no doubt so interfere with their draught as to render it imprudent to rely on them for any assistance in warming the building; I therefore made a careful calculation of the space to be heated, and the amount of heating surface provided for in the contract of Messrs. Janes, Beebe & Co., who were at that time engaged in putting up the apparatus for heating, and I found that when the assistance expected to be derived from the fires in the rooms could not be depended upon, the apparatus in progress of construction would be insufficient to warm the building; I therefore suggest that *four* additional furnaces, of the kind now being erected, be put up in the cellars, to be connected with those already in progress.

As the warming of buildings exclusively by means of hot-air furnaces is often objected to, it will be proper for me to remark that the furnaces, with which this portion of the Patent Office will be warmed, are of an entirely different character from ordinary hot-air furnaces, and not at all liable to the objections so often urged against this method of heating. The air in the chambers is warmed entirely by means of hot-water pipes, constructed in stacks, and connected to boilers, so as to produce a circulation of water throughout the pipes; these pipes are confined entirely to the air chambers, and the main horizontal flues of the basement story are not introduced into the rooms as is sometimes the case; the air in the chambers is thus heated and conveyed, by flues in the walls, to every apartment in the building.

By this arrangement two important points are gained: first, the pipes can never be heated above the boiling point, and seldom above 180° of Fahrenheit, thus rendering it impossible to carbonize the air, or to deprive it of its natural moisture. And secondly, the injection of a current of warm air must necessarily eject a corresponding quantity of air previously in the rooms, and thus increase ventilation, and prevent the ingress of cold air from the windows, as is always the case with open fires. Had the method of heating the air by means of stoves or furnaces placed in the chambers been adopted, I would have objected to depending wholly on furnace heat; but the present plan of heating being unobjectionable in point of health as well as comfort, and being perfectly safe as it regards fire, I am of opinion that the dispensing with open fires is rather an advantage than an evil.

The second alteration rendered necessary by the changing of the plan, is in the finishing of the stairways. These stairways were designed to extend to the top of the building; but when it was concluded to throw the upper story into one large room, they were not only rendered useless, but

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highly objectionable, as they would interfere with the unity of the room, and render it more difficult to manage as an exhibition room, or museum of models, by unnecessarily multiplying the means of ingress and egress. I therefore propose to throw an arch over each stairway, with a circular skylight in the centre, directly under the skylights in the roof, and to be connected with them by circular well-holes, around which cases may be constructed to receive small models; this plan will disguise the use of them, and appear ornamental in the room, while at the same time abundant light will be afforded to the stairways below. A plan of this alteration will accompany this report.

The necessity of a *third* alteration presents itself in the condition of the columns in the stairways of the second story. The original plan contemplated the repetition of columns in the third story over those below; but when it was decided to throw the whole of this story into one room, these columns had to be dispensed with, which left those of the second story without sufficient weight on them to resist the thrust of the arches, which, it should be remarked, were so formed as to resolve their horizontal pressure directly on the columns; the consequence is, they have yielded to the force thus exerted upon them, those of the north stairway being more than an inch out of perpendicular; it would therefore be hazardous to allow them to remain in their present condition. I am of opinion that the three small arches which spring from the column opposite each stairway in the second story should be taken down, and a groin arch of a single span substituted, which would relieve the columns of all horizontal pressure, and resolve the thrust on the walls of the building.

As it has been considered important to finish the rooms designated for the accommodation of the Department of the Interior, at as early a day as possible, I am urging on that portion of the work much faster than the rest, and there is no doubt that all these rooms may be finished in the month of February; but I question whether it would be prudent to occupy them this winter. The whole interior may be finished by the 1st of July next, and the entire building by the close of the ensuing season.

| | |
|---|---|
| The amount of expenditures on account of both wings of the Patent Office buildings to the 2d of December, 1851, as furnished me by the Commissioner of Public Buildings, is---- | $360,142 |
| The per-centage retained on the several contracts amounts to | 20,000 |
| The sum required to finish the east wing, including pavements, iron railing, &c., is---------- | 152,985 |
| Making---------- | 533,127 |
| From which is to be deducted the cost of the materials and workmanship of the *west wing*, estimated at---------- | 12,000 |
| Leaving, as the whole cost of the east wing, when completed | 521,127 |

The plans of the *west wing*, which are herewith submitted, contemplate the construction of each story in one continuous room of 63 feet in width, and 270 feet in length; the floors to be supported by arches springing from granite piers in the sub-basement and the basement, and from marble piers in the principal and attic stories.

As no definite conclusions have been arrived at in reference to the appropriation of the rooms in this wing, I have designed the building through-

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out so as to admit of any disposition of rooms that may hereafter be found to be convenient, by running up brick partitions between the piers.

In the design for the vaulting of this wing, I have avoided resolving the horizontal thrust of any of the arches on the outside walls, which will tend greatly to its permanency and durability, and prevent the fractures which so often disfigure vaulted buildings.

I propose to carry out the same system of heating and ventilating in this building as in the east wing, and to give it the same general finish.

| | |
|---|---|
| The entire cost of this wing, including all the necessary pavements, iron railings, &c., will be---------- | $545,000 00 |
| The granite and other materials already prepared for this part of the work, and which have been paid for, are worth about---------- | 12,000 00 |
| Leaving as the sum required to complete the western wing---------- | 533,000 00 |

In consequence of the great descent of the western half of the Patent Office square, the west wing will have a sub-basement of seventeen feet in height, entirely out of the ground, making one story more in this than in the eastern wing. This will account, in some measure, for the difference of cost between the two wings.

As the *centre building* constitutes an important feature in the general design of the Patent Office, it will be necessary to bring it as nearly as possible into harmony with the wings. The basement windows are now much smaller than those of the east wing; I therefore suggest the propriety of cutting them out and putting in new frames, with sash double hung, and inside shutters, to bring them into conformity to those of the wings; this alteration is necessary, not only to the beauty of the design, but also to the comfort and convenience of the clerks who occupy the rooms they light, as the present sash are not hung at all, and the windows are too small for apartments to be occupied as offices.

Another incongruity in the external appearance is the rock-work of the basement of the centre building, standing, as it does, in juxtaposition with the smooth marble basement of the wing; and I respectfully recommend, as a method of obviating, as far as possible, this objection, that the rough surface of the granite work be dressed off, and brought as nearly into conformity to the marble as may be done without cutting it into rustics. I am of opinion that it would be hazardous to attempt to rusticate this part of the work to correspond with the wing, as it is very doubtful whether the joints would hold good to the depth of the rustics. If, however, the wall is brought to a smooth surface, and painted like the rest of the building, the want of entire uniformity would not be observed, as the difference in color interferes more with the unity of the design, than the want of exact congruity in form.

| | |
|---|---|
| The alteration of the basement windows as here suggested will cost---------- | $1,050 00 |
| And the dressing off and painting of the granite work------ | 2,150 00 |
| Making for the improvement of the centre building---------- | 3,200 00 |

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The means that were taken, before the work was placed in my charge, to arrest the settling of the western end of the centre building, by underpinning it, and building heavy buttresses against the western wall, have been successful; but I am of opinion that the erection of the western wing is essential to the permanency of the structure.

THO. U. WALTER,
*Architect of Public Buildings.*

To the SECRETARY OF THE INTERIOR.

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# REPORT

OF THE

# SECRETARY OF THE TREASURY,

IN ANSWER TO

*A resolution of the Senate calling for information in relation to the expediency of repealing or modifying the act of June 30, 1834, concerning tonnage duty on Spanish vessels trading between the United States and the islands of Cuba and Porto Rico.*

April 1, 1852.

Referred to the Committee on Commerce, and ordered to be printed.

Treasury Department,
*March* 26, 1852.

Sir: In reply to the resolution of the Senate of 10th January, that the Secretary of the Treasury communicate to the Senate such information as he may have in relation to the expediency of repealing or modifying the act of June 30, 1834, concerning tonnage duty on Spanish vessels employed in the trade between the United States and the islands of Cuba and Porto Rico, I have the honor to submit the following report.

The wars in which Spain was for so long a time engaged with her revolted colonies on the American continent had most materially injured the Spanish mercantile marine; and notwithstanding the great advantages it possessed in the harbors of the above islands as regards discriminating duties on merchandise and tonnage, still the foreign flags, and particularly the American, seemed to have precedence over Spain.

From the proximity of the United States, and from our independence of all connexion with the political movements of Europe, it was principally under our flag that a large proportion of the valuable products of those islands was exported and their foreign wants supplied. This state of things continued, with more or less participation by the English, French, and other flags, until the recognition by Spain of the independence of her South American dependencies, and the disappearance of those privateers which had made such havoc upon her commerce. The internal tranquillity of Spain being secured about the same time by the cessation of the civil war excited by Don Carlos, a renewed impetus was given to the commercial enterprise of the nation which had so long remained dormant. The flag of Spain gradually recovered its appropriate station in her transmarine harbors, and rapidly began to absorb, through the operation of the discriminating and tonnage duties before referred to, a great portion of that commerce of which, among other foreign nations, the United States had enjoyed so large a share.

It was the mercantile interest of Spain which most earnestly pressed upon

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the ministry the policy of recognising the independence of Mexico and South America, on the ground that it would throw open such a vast trade to the Spanish flag, as well as an undisturbed intercourse with its remaining American colonies of Cuba and Porto Rico.

Amicable relations being thus re-established between Spain and her revolted colonies by the acknowledgment of their independence, she naturally determined to give to her commerce all the encouragement in her power by continuing the discriminating duties in favor of her own flag in the ports of her above colonies.

In 1828 the tonnage duty on foreign vessels in Cuba was $2 50 per ton, and on Spanish 75 cents. In 1839 it was reduced to $1 50 on foreign and 62½ cents on Spanish vessels, at which latter rates it continues.

In the same periods, respectively, the duties on foreign merchandise imported under the Spanish flag were from seven to nine per cent. less than in foreign vessels, except a few articles paying specific duties, among the most prominent of which was flour, one of our great staples, the duty on which *in favor* of the Spanish flag was from one to one dollar and a half per barrel.

In the year 1832, under the representations made to Congress on the subject of the inequality of tonnage duty in Cuba between Spanish and American vessels, the following act was passed, on the 13th July of that year:

"AN ACT concerning tonnage duty on Spanish vessels.

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That no other or greater duty of tonnage be levied in the ports of the United States on vessels owned wholly by subjects of Spain, coming from a port in Spain, than shall, by the Secretary of the Treasury, be ascertained to have been paid on American vessels in the ports of Spain previous to the twentieth October, one thousand eight hundred and seventeen.

"SECT. 2. *And be it further enacted,* That vessels owned wholly by Spanish subjects, coming from any of the colonies of Spain, either directly or after touching at any other port or place, shall pay, in the ports of the United States, the same rate of duty on tonnage that shall be levied on American vessels in the Spanish colonial port from whence such Spanish vessel shall have last departed; the said amount to be ascertained by the Secretary of the Treasury, who is hereby authorized, from time to time, to give directions to the officers of the customs of the United States for the collection of such duties, so as to conform the said duties to any variation that may take place in the duties levied on American vessels in such Spanish ports.

"SECT. 3. *And be it further enacted,* That whenever the President shall be satisfied that the discriminating or countervailing duties of tonnage levied by any foreign nation on the ships or vessels of the United States shall have been abolished, he may direct that the tonnage duty on the vessel of such nation shall cease to be levied in the ports of the United States, and cause any duties of tonnage that may have been levied on the vessels of such foreign nation, subsequent to the abolition of its discriminating duties of tonnage, to be refunded.

"SECT. 4. *And be it further enacted,* That the second and third sections of this act shall be in force, and take effect, from and after the first day of January next.

"Approved July 13, 1832."

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This retaliation did not induce the Spanish authorities to equalize the tonnage duty as regards the American and Spanish flags in those islands, nor was it sufficient to give to our flag adequate protection against the discriminating duties in favor of the cargoes imported in Spanish bottoms. Their vessels continued to resort to our ports for supplies of provisions and merchandise; and while by the above act the vessels of the two nations were placed on a footing of equality as regards the *tonnage duty* which was respectively levied upon them, the difference of the duties in Cuba upon cargoes carried by them, respectively, were in most instances much greater than the freight. On the article of *flour*, for instance, an American vessel would have to carry it free of freight in order to place the shipper of it on a footing of equality with that conveyed by a Spanish vessel at the freight (and that is a full rate to Havana) of one dollar per barrel.

Further remonstrances were made to Congress on the subject from the commercial interest of the United States, and resulted in the following act, which is the subject of the present inquiry on the part of the Senate:

"AN ACT concerning tonnage duty on Spanish vessels.

"*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That from and after the first day of March next, Spanish vessels coming from the island of Cuba, or Porto Rico, either directly or after touching at any port or place, shall pay, in the ports of the United States, such further tonnage duty, in addition to the tonnage duty which may be payable under any other law, as shall be equivalent to the amount of discriminating duty that would have been imposed on the cargoes imported in the said vessels, respectively, if the same had been exported from the port of Havana in American bottoms.

"SECT. 2. *And be it further enacted*, That before any such vessel shall be permitted to clear out or depart from a port of the United States with a cargo which shall be directly or indirectly destined to either of the said islands, the said vessel shall pay such further tonnage duty as shall be equivalent to the amount of discriminating duty that would be payable, for the time being, upon the cargo, if imported into the port of Havana in an American bottom.

"SECT. 3. *And be it further enacted*, That no Spanish vessel shall be allowed to clear out or depart from a port of the United States, with any goods, wares or merchandise, except upon a destination to some port or place in the island of Cuba or Porto Rico, without giving bond, with approved security, in double the value of the vessel and cargo, that the said cargo or any part thereof shall not be landed in either of the said islands, which bond shall be cancelled on producing a certificate from an American consul that the said cargo has been landed elsewhere, bona fide, and without intention to re-ship it for a port in one of the said islands.

"SECT. 4. *And be it further enacted*, That the Secretary of the Treasury be, and he is hereby authorized, from time to time, to estimate the said additional tonnage duty, and to give directions to the officers of the customs of the United States for the collection of such duties, so as to conform the same to any variation which may take place in the discriminating duties levied on the cargoes of American vessels in the said port of Havana.

"SECT. 5. *And be it further enacted*, That whenever the President of the United States shall be satisfied that the discriminating duties in favor of

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Spanish bottoms, levied upon the cargoes of American vessels in the ports of Cuba and Porto Rico, have been abolished, or whenever, in his opinion, a satisfactory arrangement upon the subject of the said duties shall have been made between the United States and Spain, the President is hereby authorized to declare the same by proclamation, and thereupon this act shall cease to have any further force or effect.

"Approved June 30, 1834."

Such is the history of the influences and proceedings which have produced the existing state of things, as regards the trade between the United States and the above colonies.

This act, together with the act of July 13, 1832, placed our flag upon a footing of perfect equality with the Spanish; and, as might naturally be expected under such circumstances, has not only thrown into the hands of American ship-owners nearly or quite the entire trade between those islands and the United States, but has inflicted a much more severe injury upon the interests of the United States than any possible advantages which may be thus derived from the exclusive employment of our tonnage.

The operation of the act of June 30, 1834, is very obvious. A Spanish vessel proceeding from the United States to Cuba must, previous to clearing, pay an export duty, under the name of tonnage duty, equal to the difference of duty which the different articles comprising her cargo would pay if imported into Cuba in an American vessel. So far as *ad valorem* articles are concerned, the average differences are about eight per cent. It is very evident, therefore, that every article of the kind shipped from the United States is burdened with a duty of eight per cent. more than a similar article shipped from any other country where the Spanish flag is not subject to this export duty. It is, in fact, a bounty of eight per cent. held out to the consumers in Cuba and Porto Rico, to induce them to procure their supplies from other countries instead of the United States, so far as they can possibly do so. The natural result has been that nothing but bulky articles, and those of prime necessity, and which, from the proximity of the United States, can be had more promptly and advantageously here, are now furnished from our ports and by our vessels. Other descriptions of goods are now almost exclusively obtained by those colonies from Europe; for if shipped from hence in American vessels, they would pay the additional duty on entry in those islands; and if in Spanish vessels, it would have to be paid on clearing from an American port. It is true, if the same articles were shipped from Europe by a foreign flag, they would pay the same extra duty as if imported in an American vessel; but Great Britain and other European nations have wisely preferred to furnish the supplies of their produce or manufactures, by allowing the Spanish flag to be the carriers of it; and the advantages to their industry and wealth, in furnishing the merchandise, far outweigh the mere profit on the freight which remains after the expenses connected with it are deducted.

Whilst we have been greatly injured by the operation of the act of 30th June, 1834, as regards the supply of articles of American produce or manufacture, it has almost totally annihilated the entrepot trade between those colonies and the United States, in articles of foreign production.

It is true, as a general rule, articles of European origin will be imported direct from the country of their production, rather than from the bonded warehouses of the United States; but still there are great advantages pos-

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sessed by the importers of the United States, in consequence of their proximity, and the consequent promptness with which they can furnish supplies to neighboring foreign ports. In such a port as Havana, there is probably at all times a greater or less deficiency of supply in the market of some articles of European or East India production, which could be procured from the United States in but a few more days than it would require months to obtain them from Europe; but under the operation of the act of 30th June, 1834, they only can be imported at the heavy extra duties already referred to. Perhaps no country in the world has constantly in store at its principal sea-ports such a variety of foreign productions as the United States, or where they can be procured in bond at a less proportionate advance upon their original cost; and there is no doubt that if Spanish vessels were allowed to visit and trade at and from our ports with Cuba and Porto Rico on the same footing as they are with those of Europe, there would be an immediate revival of a very large and profitable entrepot trade in foreign fabrics, besides a great extension of the supply to those islands of American produce and manufactures. All the advantages, however, arising from our geographical position and our large and constant supply of foreign merchandise, and the cheapness of freight upon it from foreign countries, are sacrificed by the operation of the act of 1834, so far as the trade of these islands is concerned, for it is in vain to expect that we can supply them with foreign merchandise, whilst it is subject to such a heavy additional duty when imported from the United States, above what is paid when imported direct from Europe.

To show the destructive influence of the law in question, I beg leave to refer to the following statement of imports in Spanish vessels into the island of Cuba for 1849. It is derived from the official publication of the "Balanza General de la Isla de Cuba, par el año 1849."

*Statement of the commerce of the Island of Cuba under the Spanish flag, with some leading points of Europe, in contrast with that of the United States under the same flag.*

| | Imports. | Exports. |
|---|---|---|
| With the United States | $11,050 | $2,129 |
| With France | 770,930 | 899,770 |
| With England | 4,845,300 | 638,820 |
| With Germany | 912,730 | 816,790 |
| With Holland | 323,300 | 123,000 |
| With Denmark | 820,270 | 14,800 |
| | 6,672,580 | 1,492,680 |

The above statement shows that of nearly seven millions imported into the island in Spanish vessels in that year, only $11,050 was from the United States; and of nearly one and a half million exported, only $2,129 was to the United States.

It is true the imports were all articles of foreign merchandise; but if Spanish vessels had been at liberty to trade with the United States on similar terms as they do at European markets, they would have procured

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a large amount of the same foreign articles from our bonded warehouses; and what would have been still more advantageous, they would, to some extent, have substituted similar articles of American for European production; for, of this heavy importation from Europe, a very large amount is the same description of merchandise which the United States formerly supplied, but which trade has been diverted from them by the operation of the law of 1834.

Of course, all articles of foreign fabric could not be procured in the United States as cheap as in the countries of their production; but under our former drawback and present bonded warehouse system, they could be furnished at so small an advance upon the European cost that the Spanish traders would most frequently seek for them in our markets, at the moment when they were most wanted, rather than incur the much greater delay in procuring them from Europe, and the risk of an unfavorable change in their own market in the mean time; and of *East India* goods, of which the consumption in those islands is of great importance, the United States could furnish supplies even at something of a less rate than the merchants of Europe (sufficiently so to be considered an object to the Spanish traders,) independent of the contingent advantages in time, already referred to.

The table previously referred to shows that England and other foreign nations have almost an entire monopoly of supplying foreign fabrics to Cuba and Porto Rico, when the United States should enjoy a very large portion of it. The importer of Cuba formerly relied upon the American markets for heavy supplies of foreign goods, principally from Russia, China, England and France, and especially for those goods which were subject to the caprices of taste and fashion; such goods had already paid a freight to our own vessels, and a commission or a profit to our merchants, and we could, therefore, well afford to allow the Spanish flag the small privilege of being the carriers of them, for the short voyage from our own ports to Cuba, where the freight must necessarily be of but small amount.

To realize more clearly the heavy tax imposed upon foreign fabrics exported from the United States to Cuba, it is necessary to remember that though their tariff is nominally *ad valorem*, it is practically specific. Broadcloth, for instance, is classified in the tariff, of different *qualities;* that of first quality is fixed at four dollars per yard, without any regard to invoice cost, of which no notice is taken at the custom-house. On this valuation a duty is levied of twenty-three and a half per cent. in Spanish and thirty-three and a half in foreign vessels, making a difference in favor of the former of forty cents per yard, which is probably fifteen to eighteen per cent. upon the real cost of the article.

On rice and lard, both articles of heavy export from the United States, the duty of thirty-five per cent. is levied on the former, at a fixed valuation of five cents, and on the latter of twelve cents per pound, both far above their ordinary cost in the United States; so that though the nominal difference in favor of the Spanish flag is only about ten per cent., the real difference is about twenty per cent. on the average invoice cost of those articles.

In consequence of the lower rate of freight and insurance from the United States to Cuba, and the promptness with which we can supply any special demand in the market, a merchant of Havana would perhaps, in the article of cloth alluded to above, willingly pay fifteen or twenty cents per yard more for that quality, in an American market, rather than incur a delay of some months to procure it from Europe. When, however, in addition to

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the above advance, he is further compelled, by the American government, to pay an additional cost of forty cents per yard, in the shape of an export duty, if shipped in a Spanish vessel, or a like duty in Cuba when imported under the American flag, it acts as a prohibition to his seeking for such goods in the United States, and he is compelled to look to Europe for his supply. This difference of duty on cloth is about a fair average of the difference as regards other dry goods, hardware, and those European productions whose bulk is in limited proportion to their value. It can be well imagined what is the operation of such a difference applied to our cotton fabrics, when brought into competition with those of England, Belgium and Switzerland, and it very readily accounts for the actual monopoly which European nations now possess as to the supply of those islands with that description of fabric, to our entire exclusion.

By the records of the department, it appears that previous to the enactment of the law under discussion, the exports of *foreign* merchandise from the United States to Cuba in some years amounted to nearly two millions of dollars, and the average from 1823 to 1832 was $1,563,000. This branch of our commerce with that colony, instead of increasing with the greatly increased population and wants of Cuba, has diminished so that the average annual export of such fabrics during the last ten years has been only $320,000, and for the last fiscal year amounted in all to but $276,000, of which $265,000 was in American, and, as already shown, $11,000 in Spanish vessels.

If thirty years since, our annual export of foreign merchandise to Cuba was nearly two millions of dollars, we should, taking into view her largely increased population, wealth and consumption, now supply her with three or four millions of similar merchandise; instead of which, it does not amount to the tithe of that estimate.

It is not alone in the trade in foreign fabrics with Cuba, in which the United States have been injured by the act of 1834, but we may ascribe to the operation of that act the almost total absence from the shops and warehouses of that island the productions of our own manufactures, which, since that period, have grown so much in extent, variety and cheapness. In a large number of cotton fabrics, it is well known those of the United States successfully compete, and even take precedence in some ports of South America, and other markets, with those of Great Britain; but they cannot do so in the markets of the Spanish colonies, where the extra duty levied upon them by the operation of the act of 1834, is greater than the ordinary profit on them to the manufacturer, or to the Cuban importer of them. The natural result of this is shown in the fact that, during the last fiscal year, the value of cotton goods sent to Cuba from the United States amounted to only $26,000, whilst the amount from Europe was nearly three millions.

Already the supply of American rice to Cuba from the southern ports has been greatly interfered with by imports from Spanish ports in the Mediterranean. The important article of dried fish is now almost exclusively procured from the British provinces, our whole exportation during the last year to Cuba being only $35,000, which is less than half of what was shipped in the same period to Hayti; whereas the consumption of the former island should be, by comparison, and no doubt is, at least $500,000. Of lard alone, we shipped to Cuba, in 1840, to the extent of about $700,000 at the actual cost, but valued there at about $1,200,000 for the assessment of duty under their own tariff. The actual difference of duty is equal

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to about twenty per cent. on the actual cost, and to nearly one and one-fourth cent per pound to the consumer in Cuba; and if the dealers there continue to be deprived of the power to save this difference, by importing it in Spanish vessels, they will ere long succeed in procuring their supplies from other quarters, and the whole import trade from the United States will ultimately be confined to lumber, box and hogshead shooks, and other bulky articles, whose freight forms so large a portion of their value when landed, that the employment of Spanish vessels in their transportation is entirely precluded.

It is unnecessary to specify other articles, the production of American industry, which have equally suffered under the operation of the law in question, and the shrewd and far-seeing traders of Cuba are constantly devising means to enable them to profit by their discriminating duties, by procuring supplies of many of them from other countries, which they yet continue to receive from the United States.

The following table exhibits the value of articles of American production shipped to Cuba during the last fiscal year, according to the annual report on the commerce and navigation of the United States:

| | |
|---|---|
| Sperm candles | $22,000 |
| Cotton manufactures | 26,090 |
| Manufactured tobacco | 34,120 |
| Flour and meal | 37,573 |
| Drugs | 56,050 |
| Beer, ale and vinegar | 32,408 |
| Beef and tallow | 59,380 |
| Potatoes and apples | 61,700 |
| Butter and cheese | 72,100 |
| Furniture, carriages and saddlery | 82,500 |
| Pickled Fish | 8,845 |
| Dried Fish | 85,500 |
| Soap and tallow candles | 115,400 |
| Sperm and whale oil | 123,276 |
| Indian corn | 129,734 |
| Manufactures of iron, chiefly steam-engines and machinery | 650,708 |
| Rice | 560,100 |
| Pork, hams and lard | 798,618 |
| Boards and manufactures of wood | 1,805,077 |
| Stationery | 31,120 |
| Unenumerated manufactures | 248,888 |
| Cotton | 15,075 |
| Coal | 57,075 |
| Ice | 18,320 |
| Sundries | 95,549 |
| | 5,218,741 |

By an inspection of the above list it will be seen how limited is the amount of those articles imported into Cuba from the United States, except such as must necessarily be obtained from us, either in consequence of their much greater cheapness precluding competition, or from their small value in proportion to their bulk, which will not allow a heavy freight upon them from more distant points.

It is true that the aggregate amount of exports of American productions to Cuba, and almost exlusively in American vessels, so far from diminishing, has increased, as their average for the last three years is about $4,800,000,

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against an average export of about $3,600,000, for the ten years ending in 1832; but the total exports to that island, *including foreign goods*, is not greater now than they were thirty years since. The diminution in the exports of certain articles of American production has already been alluded to, and the above increase in their aggregate is far below what it should have been, taking into view the great augmentation in the trade, and consumption of the island. The heaviest item of our exports to Cuba is lumber, particularly in the shape of box and hogshead shooks; the former, boards sawed to the proper size and length for sugar boxes, and the latter the dressed staves and heading for molasses casks, both of which are put up after being landed there.

The sugar crop of Cuba was, twenty-five years since, about 700,000 boxes, and now it is 1,700,000! The supply of this additional million of box-shooks, with a similar rate of increase in those for molasses, (upwards of 250,000 hogsheads of which were imported into the United States during the last year,) will nearly or quite account for the increased amount of our exports of American produce to the island, above what they were twenty-five or thirty years since.

If this view is correct, the aggregate amount of all other supplies of *American* productions does not exceed what they were in 1825, with a diminution of five-sixths of the trade in *foreign* merchandise, instead of having increased, as in the natural course of events should have been the fact, our supply of both foreign and domestic goods from fifty to one hundred per cent. more than at the above period. By a repeal of the act in question, a portion of the trade between these islands and the United States would, no doubt, be carried on by Spanish vessels, and more particularly for the rice, lard, pork, and some other articles of provision from our southern ports; but the great bulk of their present imports from this country, which are to a very great extent carried there by our own vessels seeking European freights, would still be carried under the American flag. It may indeed be asserted that the probable if not the certain result of a repeal of the present restrictions upon Spanish vessels visiting our ports from those islands, would be that the consequent increase in the trade with them would afford full employment to all the Spanish vessels which might enter into the commerce with the United States, and thus leave to our vessels an equal amount to what they now enjoy.

It must also be recollected that if Spain levies differential duties in favor of her vessels from the United States, we in like manner do the same upon the cargoes brought into our ports, in favor of our vessels coming from her colonies; and though the extra duties which we exact on cargoes by Spanish vessels are not so great as those exacted on our tonnage, it still gives protection to American vessels bringing cargoes from thence.

Nothing can more fully exhibit the determination of Spain to adhere to her present policy, than the fact, as shown by the official returns of the importations into Cuba, that she annually sacrifices nearly $600,000 in the way of reduced duties, on that portion of these importations which is brought in Spanish vessels. This estimate of the amount of duties conceded in favor of Spanish vessels is made on the basis of eight per cent. difference of duties on the Cuban value of imports; but in many instances it is even greater, as on Spanish flour in Spanish vessels, the duty is only $2¼ per barrel, whilst on American and other foreign flour it is $9¾ in foreign, and $8¾ in Spanish vessels. Formerly the United States furnished nearly the

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entire consumption of this article to the island—not less, it is believed on good authority, than 200,000 barrels annually; but under the operation of above system of duties, that trade has entirely ceased, and the article is furnished exclusively from Spain, and of a quality often superior to the American. On this article alone Spain has thus sacrificed, in 1849, a difference of duty for the protection of her home industry and tonnage of seven dollars per barrel on 212,000 barrels, (the official amount of her imports in that year,) being nearly $1,500,000.

It must be evident from the preceding details that the attempt to retaliate upon the Spanish authorities for their heavy discriminating duties in favor of their own vessels has failed in its anticipated results, and has caused a large portion of a valuable trade which legitimately belonged to the United States, to pass into other hands. With the annually growing extent of our productions and manufactures, and the rapidly increasing trade of both Cuba and Porto Rico, it will certainly be very desirable to re-open, by any just act of reciprocity, or the repeal of laws adopted under erroneous views, the channel of a commerce which would prove greatly and mutually advantageous to both parties.

The question, then, with the United States, is one involving on the one hand the certain loss of a valuable trade, not alone in articles of American production, but also in foreign goods, on which our citizens have already enjoyed a profit and a freight in transporting them to our bonded warehouses, for the protection, on the other hand, of an amount of our own tonnage vastly inferior in point of importance to the trade which we thus abandon to England, France, Germany, &c. If the differential import duties levied by Spain were applied only to the vessels of the United States, the question would assume a different shape; but as we are placed by Spain in this respect on a footing of equality with all other foreign nations, there is no reason why we alone, by retaliating acts, should attempt to coerce her into the abandonment of a general system, and particularly as the attempt has and will continue to operate disadvantageously upon our own interests.

The department would not recommend a repeal of the act of 13th July, 1832, but, on the contrary, thinks it advisable that Spanish vessels from Cuba and Porto Rico should continue to be subject to a tonnage duty similar to that levied on American vessels visiting the ports of those islands, with power to the Executive to make a change in the present rates corresponding with any which may be adopted by the Spanish authorities.

There can be no just or reasonable objection on the part of Spain to this course, and these countervailing tonnage duties would be levied on the same principle as our present discriminating duties upon the produce of these islands when imported in Spanish vessels. In the mean time, our existing laws offer to Spain, in common with all other nations, free admission of her flag into our ports on a full footing of equality in every respect with our own vessels, whenever she is willing to concede similar privileges to the American flag.

With a view of showing the importance of the trade of Cuba, I annex a table (marked A) exhibiting the total value of the exports and imports of the different ports of the island in 1849, (the latest official returns received,) in Spanish and foreign vessels respectively, and the proportion in vessels of the United States; and table B, the number and tonnage of Spanish, American and other vessels entering the island.

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It may be proper to call attention to the third section of the act of 1834, which embraces conditions and restraints upon all Spanish vessels clearing from the United States to other ports besides Cuba and Porto Rico, which are of an onerous character, but which was necessarily incidental to the act itself; and it may well be supposed that such a clause, so vexatious in its practical operation, has tended to injure the direct trade between Spain and the United States.

I have in the preceding report more particularly alluded to the trade with Cuba, not only from being much more important than that of Porto Rico, but also because the statistical information respecting it possessed by the department, was much more complete than that as regards the latter island. The operation of the act of 1834 has, however, had likewise an unfavorable result on the commerce with Porto Rico, though probably not to the same proportionable extent as that with Cuba.

All of which is respectfully submitted.

THO. CORWIN,
*Secretary of the Treasury.*

Hon. Wm. R. King,
*President pro tem. of the Senate.*

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A.—*Official statement of the amounts of imports and exports of all the ports of the island of Cuba during the year* 1849, *according to the "Balanza General" of that island.*

IMPORTS.

| Ports. | In Spanish vessels. | In foreign vessels. | Total. |
|---|---|---|---|
| Havana | $13,296,000 | $6,450,000 | $19,746,000 |
| Matanzas | 1,167,000 | 1,097,000 | 2,264,000 |
| Cardenas | ..... | 339,000 | 339,000 |
| Trinidad | 270,000 | 379,000 | 649,000 |
| Cienfuegos | 193,000 | 392,000 | 585,000 |
| Sagua la Grande | ..... | 88,000 | 88,000 |
| St. Jago de Cuba | 1,166,000 | 887,000 | 2,053,000 |
| Other ports | 275,000 | 322,000 | 597,000 |
| Total | 16,367,000 | 9,954,000 | 26,321,000 |
| Proportion from the United States | 11,050 | 6,567,250 | 6,578,300 |

EXPORTS.

| Ports. | In Spanish vessels. | In foreign vessels. | Total. |
|---|---|---|---|
| Havana | $4,189,000 | $7,276,000 | $11,465,000 |
| Matanzas | 656,000 | 3,191,000 | 3,847,000 |
| Cardenas | 9,000 | 650,000 | 659,000 |
| Trinidad | 133,000 | 1,011,000 | 1,144,000 |
| Cienfuegos | 71,000 | 997,000 | 1,068,000 |
| Sagua la Grande | ..... | 657,000 | 657,000 |
| St. Jago de Cuba | 367,000 | 2,536,000 | 2,903,000 |
| Other ports | 168,000 | 645,000 | 793,000 |
| Total | 5,573,000 | 16,963,000 | 22,536,000 |
| Proportion to the United States | 2,129 | 6,298,971 | 6,301,000 |
| Total imports and exports of the island, 1849 | ..... | ..... | 48,857,000 |
| Total imports and exports of the island, 1848 | ..... | ..... | 51,511,600 |

NOTE.—It will thus be seen that the direct import and export trade of the island with the United States is equal to more than one-fourth its entire commerce, independent of the carrying-trade to Europe, as adverted to in a previous table; and it will further be observed that the privileges enjoyed by Spanish vessels are chiefly available in the *import* trade of the island, about three-fourths of the exports being made in foreign vessels—the relative proportion of which enjoyed by the United States may be inferred from the previously-referred-to table.

The "Balanza" for the year 1849 is the latest that has reached the department; it is, however, known through commercial sources that the exports of 1850 exceeded considerably those of 1849, whilst those of 1851 were upon a still more extended scale.

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B.

*Official statement of the tonnage and number of vessels entered at the custom-houses of the Island of Cuba from foreign ports during the year* 1849.

| Nations. | Havana. | Matanzas. | Cardenas. | Trinidad. | Cienfuegos. | Sagua. | St. Jago. | Others. | Total. | Tons. |
|---|---|---|---|---|---|---|---|---|---|---|
| Spanish..... | 553 | 88 | 8 | 44 | 27 | .... | 111 | 51 | 877 | 201,214 |
| United States... | 608 | 232 | 248 | 113 | 133 | 93 | 95 | 122 | 1,689 | 511,857 |
| English..... | 124 | 66 | 16 | 12 | 71 | 5 | 119 | 38 | 451 | |
| Others..... | 144 | 7 | 1 | 15 | 18 | 3 | 42 | 16 | 236 | |
| Total..... | 1,429 | 393 | 268 | 184 | 249 | 101 | 367 | 227 | 3,203 | 712,571 |

NOTE.—The "Balanza," already referred to, furnishes no information of the tonnage of each nation separately, except that of Spain, but experienced persons in the trade estimate that of the United States included above at sixty per cent. of the whole; as in *number* of vessels, it will be seen more than one-half were of the United States.

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# REPORT

OF THE

# SECRETARY OF THE INTERIOR,

IN ANSWER TO

*A resolution of the Senate calling for information in relation to an amount due the St. Regis Indians.*

APRIL 5, 1852.

Referred to the Committee on Indian Affairs, and ordered to be printed.

DEPARTMENT OF THE INTERIOR,
*Washington, April 2, 1852.*

SIR: In obedience to a resolution of the Senate of the 22d ultimo, I have the honor to communicate, herewith, a report made to me on the 30th ultimo by the Commissioner of Indian Affairs, showing that the sum of $4,000 is due to the St. Regis Indians, by virtue of the treaty made with the New York Indians by Ransom H. Gillett, commissioner, and that that sum was embraced in the special estimates of appropriations deemed necessary for the service of this department during the present fiscal year, transmitted to the Senate on the 12th of January last.

The item will be found, with proper explanations, on pages 296 and 298 of the printed annual report of the Commissioner of Indian Affairs, communicated to Congress in December last.

I am, sir, with much respect, your obedient servant,

ALEX. H. H. STUART, *Secretary.*

Hon. WILLIAM R. KING,
*President of the Senate.*

DEPARTMENT OF THE INTERIOR,
*Office Indian Affairs, March 30, 1852.*

SIR: In answer to the resolution of the Senate of the 22d instant, referred by you to this office, in which that body requests to be informed "whether any, and what sum is or will become due to the St. Regis Indians, by virtue of a treaty made with the New York Indians by Ransom H. Gillett, commissioner, and upon the expediency of an appropriation to pay the sum so due, if any," I have the honor to state, that under the ninth article of the treaty referred to in the resolution, the sum of $4,000 is due, as a remuneration for moneys laid out by said tribe, and for services rendered by their chiefs and agents, in securing the title to the Green Bay lands, and in

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removal to the same. This sum, I have also the honor to state, was estimated for by this department, and is embraced in the deficiency bill recently passed by the House of Representatives, and now before the Senate.

For further information I beg leave respectfully to refer to the special estimates from this office, *item* 1, and to the explanations accompanying the same, which may be found on pages 296 and 298 of my annual report for 1851.

Very respectfully, your obedient servant,

L. LEA, *Commissioner.*

Hon. A. H. H. STUART,
*Secretary of the Interior.*

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# REPORT

OF

# THE SECRETARY OF THE NAVY,

IN RELATION TO

*The expediency of a reconnoissance of the routes of navigation in the northern seas and in the China and Japan seas.*

April 6, 1852.
Referred to the Committee on Commerce, and ordered to be printed.

Navy Department,
*April* 5, 1852.

Sir: I have the honor to acknowledge the receipt of the Senate's resolution, adopted on the 22d ultimo, calling upon the Secretary of the Navy to "communicate to the Senate his opinion of the expediency of a reconnaissance of the routes of navigation in the northern seas, and in the China and Japan seas; and whether any vessels belonging to the service can be used for that purpose; and, also, what would be the expense of such a reconnaissance."

So far as regards the expediency of the reconnoissance referred to in the resolution, I find that the files of this department contain a carefully prepared discussion of the subject by the Superintendent of the National Observatory, of the date of December 3, 1851; confined, however, to the value and importance of the whale fishery in the Anadir, Ochotsk, and Arctic seas, as the whaling grounds in the regions about Bhering's straits are called, from which I beg leave to furnish the following extracts:

"In the summer of 1848 Captain Roys, of the whale ship 'Superior,' penetrated the Arctic ocean, through Bhering's straits, and encountered, in his adventurous pursuit, all the dangers of an unknown and polar sea. He was successful in his enterprise; filling his ship with oil in a few weeks. Influenced by the report which he brought back as to the abundance of whales, owners in the United States fitted out a large fleet for those grounds; and, in 1849, Captain Roys was followed by 154 sail of whale ships, each vessel (said to be) worth, on the average, with her outfit, $30,000, and manned by thirty able-bodied seamen each. This fleet took, that season, 206,850 barrels whale oil, and 2,481,600 pounds of bone.

"In the summer of 1850 there went up a whaling fleet of 144 American vessels, manned as above, and of a like average value. This fleet, in the course of the few weeks, left for their pursuits in those inhospitable regions, took 243,680 barrels whale oil, and 3,654,000 pounds bone.

"In the current year (1851) there went up a fleet of about 145 Ameri-

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can vessels, but their returns have not been received. Partial accounts of wreck and disaster only have reached us. They are startling.

"The lives and property at stake there, for the two years for which we have complete returns, may be thus stated:

| | | |
|---|---|---|
| 1849.—Number of American seamen 4,650. | | |
| Value of ships and outfits | $4,650,000 | |
| Value of oil taken | 2,606,510 | |
| Value of bone | 814,112 | |
| | | $8,070,622 |
| 1850.—Number of American seamen 4,320. | | |
| Value of ships and outfits | 4,320,000 | |
| Value of oil taken | 3,761,201 | |
| Value of bone | 1,260,630 | |
| | | 9,341,831 |
| Value of ships and cargoes | | 17,412,453 |
| Total ships in two years | | 299 |
| seamen | | 8,970 |

"The losses during the year 1851 have been unprecedented, so far as heard from. No less than seven sail of this fine fleet of 1851—the Houqua, the New Bedford, the Arabella, the America, the Armata, the Mary Mitchell, and the Henry Thompson—have been wrecked, and left behind as monuments of the dangers which meet these hardy mariners in their adventurous calling. There are reports of other losses and wrecks. These are certain; and, though several of them were lost, not on shoals, but otherwise, yet these are enough to tell of imperfect hydrography, and to show the national importance of looking to it; for it may be so that, in case of loss in the ice, the knowledge of a sheltered anchorage near, and which a survey would give, would have prevented the exposure to the ice, which induced the loss.

"All our commerce with what is called 'the East,' is not so valuable as this was for 1849 and 1850.

"We see by the above statistics that in these two years, more American seamen were engaged in that small district of ocean than are employed in our whole navy at any one time; that in these two years these hardy mariners fished up from the bottom of the sea, and by their own energy created and added to the national wealth, the value of more than eight millions of dollars. And we moreover see, that, owing to the dangers of the land and ice, the hidden rocks and unknown shoals, one vessel in every twenty that went there during the summer of 1851 has been left behind a total wreck, and the lives of their crews, or of not less than one man for every twenty engaged in that business, have been put in jeopardy, mostly for the want of proper charts. No protection that our squadrons can at this moment give to our commerce with any of the states of Christendom, can compare with that which a good chart of that part of the ocean would afford to this nursery of American seamen, and to this branch of national industry.

"I learn that in latitude 64° 15′ N., longitude 178° W., Captain Middleton, of the barque 'Tenedoz,' of New London, discovered a shoal having only eight feet water on it, and was two acres in extent. That the ship 'Ajax,' of Havre, was lost on a rock south of the Isle of St. Lawrence, ten miles

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from land. That 'the entire fleet of whalemen in the Arctic ocean complain much that charts are wrong; that the coast is badly explored, but little known,' &c. That 'several of our vessels have been near being wrecked, by unexpectedly making land or rocks under the bows at night.' That they have found in the arctic circle low sand-spits, extending five or six miles out. That also 'in Ochotsk sea, there are hidden dangers;' that 'the Houqua, in 1851, was totally wrecked on a sunken rock in that sea.'

"I am also informed that 'the Indians are very friendly; that they wanted to trade; that the whalemen frequently went on shore,' &c. That 'Captain Taylor brought specimens of ore of metals from the Arctic shore; that he obtained information from the natives of the existence of gold among them, as also iron; that when shown implements of various kinds, they gave him to understand, *plenty in the mountains*.' Such also was the case with gold: they knew the metal, and pointed as such existing among them."

With these facts before the department, I have no hesitation in expressing an opinion favorable to the measure suggested in the resolution, nor in recommending such a reconnaissance and survey as will establish accurately the positions of the prominent capes, bays, headlands and harbors.

To fix the positions of the rocks and shoals that endanger the navigation there, and to examine the Fox or Aleutian islands, would be the work of two or three properly appointed vessels only for a short time. When the season is closed for these latitudes, the same vessels could be most beneficially employed in an examination of the seas of China and Japan, and the regions thereabouts, whose hydrography is so defective, and an accurate knowledge of which is becoming every day of more and more importance.

In reply to the latter clause of the resolution, viz: "whether any vessels belonging to the service can be used for that purpose; and also what would be the expense of such a reconnaissance," I respectfully state, that this department has not at its command the vessels necessary for the contemplated service, unless by reducing the numbers of our vessels attached to squadrons on foreign service, and which I by no means recommend.

I am of opinion that the necessary vessels can be built at our navy yards or purchased for a sum not exceeding $125,000, and that no additional appropriation beyond that sum need be made. The wear and tear of the vessels, pay of the officers and crews, stores, provisions, instruments, &c., can be provided for out of the current appropriations. The accompanying report from the chief of the Bureau of Ordnance and Hydrography, and papers prepared by Commander Ringgold and Lieutenants Maury and Page, are respectfully submitted, as throwing additional light on the subject.

I have the honor to be, very respectfully, your obedient servant,

WILL. A. GRAHAM.

Hon. W. R. KING,
*President of the Senate.*

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BUREAU OF ORDNANCE AND HYDROGRAPHY,
*March* 31, 1852.

SIR: I have the honor to acknowledge the receipt of the resolution of the Senate which you referred to this bureau, in relation "to the expediency of a reconnaissance of the routes of navigation in the northern seas, and in

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the China and Japan seas; and whether any vessels belonging to the service can be used for that purpose, and what would be the expense of such reconnaissance."

It may be presumed that the "reconnaissance" mentioned in the resolution was intended to furnish information which would materially diminish the dangers of navigating the routes therein specified. For this purpose, the least that should be attempted would be to establish, with as much accuracy as chronometers and ordinary observations would give, the positions of the most important points of the coasts and larger islands; and of the most dangerous shoals or rocks which are known to exist, or which may be discovered; to examine and determine the extent and character of islands and shoals which are imperfectly known, and whose position is uncertain; and to make more accurate surveys of ports and harbors which may be found to have peculiar advantages for furnishing supplies or shelter to vessels that may need them.

The advantages which would probably result from such a reconnaissance would seem to establish the "expediency" of making it, especially when reference is had to the great number of vessels, and the value of property, and to the probable rapid increase of vessels which will be traversing these routes in pursuit of the whale; and in the commercial intercourse between our ports on the Pacific and the coasts and islands of Asia.

To accomplish what has been assumed as desirable, and at the same time avoid details inconsistent with the terms of the resolution, the examination should assume the character of what is usually called and known as a "running survey" for the coasts of the continent, and larger islands, referring generally to chronometers for longitude, and ordinary observations for latitude.

More careful examinations would be required, and should be limited to the objects most dangerous to navigation, or which can afford relief and shelter in case of distress. The determination of doubtful questions respecting the existence or the position of dangers, or other important objects, might be combined with other duties without incurring any great additional occupation of time.

The attention of all our vessels of war that may be employed in those seas, might be advantageously given to these last named objects whenever it could be given without interfering with their more special duties, if it should meet the views of the department to give orders for it.

Although there are probably vessels in the navy which could be used for this service, if they could be spared from other duties, yet they would not probably be as well adapted to it as other vessels fitted expressly for it. To enlighten my own judgment, and to furnish information which might be useful to others in forming theirs, reference was made for their views to some officers whose practical experience on surveying duty entitle their opinions to much weight. Copies of the communications received in reply from Commander Ringgold, and Lieutenants M. F. Maury and T. J. Page, are herewith enclosed.

After carefully considering their opinions, and the points upon which they differ, my own opinion is in favor of one propeller steamer of from seven to eight hundred tons, having the propeller fitted to be raised out of the water at pleasure, and two sailing vessels of from 220 to 250 tons. Vessels of large burden are desirable, that they may carry provisions and water sufficient for their crews for a long time, and for the steamer a large

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supply of coal to prevent the loss of time that would otherwise be incurred by more frequent resort to ports for renewing supplies.

The cost of these vessels, and of their proper equipment for service, can only be stated as conjectural, but it is believed would not be less than $125,000. Their annual expense, exclusive of the pay and provisions for the officers and crews, would probably be from $35,000 to $40,000. The time that would be required to make such a reconnaissance as proposed, would probably be fully three years after reaching the seas to be examined, and might be extended by unfavorable weather and delays from other accidental causes.

The resolution of the Senate is herewith returned.

With much respect, I am, sir, your obedient servant,

C. MORRIS,
*Chief of Bureau.*

To the Hon. SECRETARY OF THE NAVY.

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WASHINGTON, *March* 30, 1852.

SIR: In compliance with your request, I have the honor to state that, in my humble opinion, a third-class sloop-of-war, and a brig of about 250 or 300 tons, selected with regard to their superior sailing and good working qualities, equipped and armed in every respect with particular reference to the peculiar duty to be assigned them, would be found adequate to, and subserve the purposes of an expedition to make a careful reconnaissance of the Northern and Western Pacific ocean. A store-ship should be attached to the expedition, for by the judicious transportation of supplies at distant points, great advantages would be secured and much valuable time saved. Depôts of stores and provisions would be highly proper at the Sandwich Islands, and some point conveniently located in the East Indies.

If careful and corrected surveys are contemplated, and the plan of operations extended, a second brig of same size, or a schooner of good capacity, would contribute much to the efficiency of the enterprise, and hasten the completion of the important duty. I recommend the above organization of force, in contradistinction to vessels propelled by steam, on the score of economy, and on the ground of liability of the latter to become deranged or disabled in their machinery; also because of the serious difficulty and inconvenience in procuring and having at hand an abundant supply of coal on so remote a field of duty. The space occupied by the machinery and fuel would interfere with and curtail the accommodations necessary to a full supply of provisions and water, indispensable on the exposed and dangerous service in view. However, if these objections can be removed, the advantages of a propeller are most unquestionable, and would be invaluable.

I am, sir, most respectfully, your obedient servant,

CADWALLADER RINGGOLD.

Commodore CHARLES MORRIS,
*Bureau of Ordnance and Hydrography.*

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NATIONAL OBSERVATORY,
*Washington, March* 29, 1852.

SIR: I have carefully considered the several interrogatories proposed in your letter of the 29th instant. Replying to them in their order, I have the honor to state:

1st. As it regards "the number, size, and character of the vessels" best adapted to make the reconnaissance in the Northern seas, and in the China and Japan seas, as proposed by Senate resolution, March 22d, 1852, that the number and character should be two steamers, or one steamer and two sailing vessels. Two propellers of 500 tons each, or one propeller of 500 or 600 tons, with two schooners or brigs of from 120 to 150 tons each, would be capable of doing a vast amount of useful service in the seas above mentioned.

2d. As to the "particular objects," and the degree of *particularity* to which attention should be directed, they should be, the Aleutian islands, the whaling region in Bhering straits, the sea of Anadir, the coasts of Asia, and of the islands adjacent thereto, from this sea down to Shanghai.

Quitting the continental coast-line at Shanghai, the reconnaissance should be extended eastward to the Loo-choo and Benin islands, and thence southward towards New Guinea and the Java sea.

As to the degree of minuteness, the survey of the coast-line should be what is known among hydrographers as a running survey, *a la* the coast of Africa by Admiral Owen; the west coast of America, by King *et al.*; care being taken to give surveys of the principal harbors and of hidden dangers in the usual routes of vessels, with sufficient detail to enable the navigator to enter the harbor safely, and to clear the dangers with certainty.

3d. Whether "the whole work should be assigned to one, or divided between two parties, each having a separate part of the coast assigned."

I am clearly of opinion that one party would be more economical, and nearly if not equally as efficient as two, and for these reasons, viz: In the winter the seasons are unpropitious for such work at the north. The vessels, therefore, when driven from the north by the cold, might go to the south and survey there until the season for working at the north should open; going and returning each time by a new route, and making a running survey in the act, so that no time should be lost in passing from one region to the other.

4th. As to the *probable cost of requisite vessels*, I have no means of forming any estimate beyond that of mere guess-work.

I may however add, that the nature of the service would require an outfit of $7,000 or $8,000 over and above the usual allowance to vessels of the navy on ordinary duty, and that the annual expense of the expedition, both men and officers being furnished by the navy, would not involve any expense over and above such as is incidental to vessels of a like class when engaged as armed cruisers.

5. *As to the time within which the work may be completed:* That would depend very much upon the energy and skill brought to bear upon it, and the facilities afforded for receiving fresh supplies, exchanging broken-down or worn-out officers and men for fresh ones, &c.

But supposing all proper facilities to be afforded, the needful degree of skill and energy to be displayed in the conduct of the work, and that no mishap from shipwreck or other mischance occur, I am of opinion that such an expedition would in three years' time collect all the materials for excel-

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lent charts of the regions above named, and for just such charts as the business and commerce of American citizens so urgently require.

Respectfully, &c.,

M. F. MAURY,
*Lieutenant U. S. N.*

Com. CHAS. MORRIS,
*Chief of the Bureau of Ordnance and Hydrography.*

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WASHINGTON, D. C.,
*March* 26, 1852.

SIR: On the assumption of employing one surveying party, I conceive it all-important to have at least one steamer among the surveying vessels. Two steamers would do more work, and cost not more in the first outlay, than one steamer and two small schooners of, say about two hundred tons each. A steamer to operate in the China seas, should be of sufficient size and proportions to resist and stand up against the severe typhoons prevalent in these waters. She should also be of sufficient size to carry as much coal as possible, because frequently leaving the surveying region should be avoided.

Should Congress be willing to authorize the employment of two parties, the original cost and annual expense would of course be double. In the employment of one party, I do not conceive that any time would be lost in passing from the southern extreme of the survey, say the Java and China seas, to the most northern portion of the whaling ground; because, in going and returning so as to take advantage of the seasons, the work would be constantly in a state of prosecution, inasmuch as there are undetermined islands, shoals, &c., on the entire route between the southern extremity of the Japan group and Bhering straits.

Of course two parties should accomplish double work; but in asking for the means of setting on foot two parties, the chances of defeating both should be estimated.

The entire cost of such an important work, executed upon the most expensive scale, should be no obstacle in the way of its accomplishment; but as all may not look upon it in this light, it becomes necessary to consult the views and wishes of those who have the voting of the money. I am of the opinion that should there be one party authorized, it would be advisable to have two steamers—propellers—and constructed especially for this service. They should be from five to eight hundred tons. The larger steamer could be employed during the typhoon season in the China sea, as she would be capable of resisting those gales, while the smaller could be at work, either beyond the reach of such gales at such seasons, or in filling in the details, where the larger steamer could not go, and in the surveying of harbors, shoals, &c. The cost of two such steamers would not be much less than one hundred thousand dollars, fully equipped with everything save armament. There should be at the disposal of the department a small sum in addition, five or seven thousand dollars, to cover incidental expenses, such as would be restricted by the rules of the Fourth Auditor's office, for the purchase of books, stationery, instruments, charts, and drawing paper, &c., &c. The annual expenses must be unimportant, as the officers and men

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would be of the navy. They rest upon so many contingencies, that I scarcely know how to come to an estimate.

I suppose, when once built, the repairs would be borne by the navy appropriations; if not, some provision would be necessary for this purpose. The incidental expenses which could be calculated on annually, would arise from the consumption of coal, and the wear and tear of rigging, &c. To meet these, I should suppose $35,000 would be sufficient.

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|---|---|
| I therefore conclude for building and equipping of two steamers | $100,000 |
| For supplying them with books, instruments, &c | 7,000 |
| Annual expenses | 35,000 |

For two parties, double these sums.

To estimate the time which such a survey would occupy, would be very much a matter of speculation, inasmuch as it rests on so many contingencies. There may be developed an amount of detail in the Japan sea, Yellow sea, Ochotsk sea, and sea of Kamtschatka, of which we may now be able to form a very imperfect idea. The prevalence of fogs in those high latitudes, the chances of losing the greater part of the entire season, (where that season will not embrace more than four months,) should be taken into account in the estimate of time. For that space, between the China and Japan seas, inclusive, with a party of two steamers continuously at work, I think three seasons would be sufficient. For the region north and east of this, from Japan to Bhering straits, even a greater length of time might be required, owing to the shortness of the working season, even should that time be fully blessed with suitable weather.

But there are so many circumstances involved in this estimate of time, that it is almost impossible, as you will readily perceive, to arrive at anything like an accurate conception of it. It is worthy of consideration in the construction of such steamers, that if made suitable for this survey, they may at all subsequent time become very serviceable vessels for naval purposes of various kinds.

In the organization of an expedition to carry out the views of the Senate, as expressed in its resolution of March 22, on this subject, a very liberal construction must be given to the word "*reconnaissance;*" for if confined to the true intent and meaning of the word, we should simply have an *examination* of the regions specified, *for the purpose* of determining upon the mode and manner of a detailed survey, or of establishing by latitude and longitude the important localities of those regions. Knowing the origin of this resolution—that it is the result of memorials to Congress, to give to the East India trade, and to those whaling in the North Pacific Ocean, charts, by which they may navigate those regions in somewhat greater safety than now—we are enabled at once to arrive at the intent and meaning of the expression designed to be conveyed by the resolution; and this I understand to be, a survey executed chronometrically, working from well established points by differences of longitude, with all the expedition possible consistent with a due regard to accuracy and closeness of examination. Looking to the most economical method of conducting such a survey, I see nothing comparable to that of steam. All experience has shown, that in economy of time and money, there cannot possibly be a doubt of the superiority of steamers over sailing vessels. There may be an *apparent* advantage on the side of the latter in the outset, when looking to the first cost: but this dif-

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ference is soon come up with, and in so short a time passed, by the superiority in the quantity of work executed by the steamer. In the prosecution of surveys, sailing vessels have given way to steamers, wheresoever the substitution could possibly be made. In the regions of country under consideration, they are peculiarly demanded. As propellers adapted both to sailing and steaming, (and to use steam only when the work demands it,) with capacity to carry a quantity of coal equal to their entire stowage, save that required for their limited crews, provisions, water, &c., I conceive it entirely unnecessary to leave the whaling regions in the high latitudes, during the working seasons, *for the purpose* of replenishing with coal. That is, I conceive the quantity of coal taken on board in the outset, bound for the whaling field of work, sufficient to keep that steamer at work the entire season, without the necessity of leaving the "ground" for an additional supply. While operating in and about the China seas, coal will be found convenient enough to supersede the necessity of any loss of time in procuring it.

Were the vessels now ready at hand to be fitted for sea, and for this survey, they could not be gotten into the extreme northern whaling region in time to accomplish anything, before the severity of next autumn and winter would arrest all work; neither could they accomplish much in the China sea before next spring, supposing them ready to sail within two months from this time; I therefore see nothing lost in providing suitable vessels for the work under consideration.

With an eye, therefore, strictly to economy, I cannot hesitate in giving it as my opinion, that by the employment of steamers in this survey, the government, as well as commercial interests, will be decidedly advanced.

I have the honor to be, very respectfully, your obedient servant,

THOS. J. PAGE, *Lieutenant.*

Ex. 2

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